

303886

ANALYTICAL RESULTS SUMMARY

GENERAL CHEMISTRY

PROJECT NAME: RFP 265

WESTON SOLUTIONS, INC.
Raritan Plaza Suite 201
1090 King Georges Post Road
Edison, NJ - 08837-3703
Phone No: 732-225-6116

ORDER ID: E3796

ATTENTION: Smita Sumbaly







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Cover Page

Order ID:

E3796

Project ID:

RFP 265

Client:

Weston Solutions, Inc.

Lab Sample Number	Client Sample Number
E3796-01	P001-DW-2001-1
E3796-02	P001-DW-2003-1
E3796-03	P001-DW-2004-1
E3796-04	P001-DW-2006-1
E3796-05	P001-DW-2006-2
E3796-06	P001-DW-2007-1
E3796-07	P001-DW-2011-1
E3796-08	P001-DW-6035-1
E3796-09	P001-S-2001-1
E3796-10	P001-S-3001-1
E3796-11	P001-S-3001-2
E3796-12	P001-S-3002-1
E3796-13	P001-S-3003-1
E3796-14	P001-S-6001-1
E3796-15	P001-S-6002-1
E3796-16	P001-S-6003-1

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

HI Idea V Reys

Mildred V. Reyes, QA/QC Supervisor

2013.09.30 16:35:31 -05'00'

Signature:

9/30/2013 Date:

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CHEMITECH

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Weston Solutions, Inc. Project Name: RFP 265

Project # N/A

Chemtech Project # E3796

Test Name: Corrosivity, Flash Point, Ignitability, Reactive Cyanide, Reactive Sulfide

A. Number of Samples and Date of Receipt:

16 Solid samples were received on 09/20/2013.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Corrosivity, Flash Point, Ignitability, RCRA CHARACTERISTICS, Reactive Cyanide and Reactive Sulfide. This data package contains results for Corrosivity, Flash Point, Ignitability, Reactive Cyanide, Reactive Sulfide.

C. Analytical Techniques:

The analysis of Flash Point was based on method 1010A, The analysis of Ignitability was based on method 1030, The analysis of Reactive Cyanide was based on method 9012B, The analysis of Reactive Sulfide was based on method 9034 and The analysis of Corrosivity was based on method 9045C.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments: Fax result for sample no. P001-DW-2007-1 was reported incorrect for reactive sulfide. Hard copy data is correct.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

	Holded V Reye	Mildred V. Reyes, QA/QC Supervisor 2013.09.30 16:35:20 -05'00'
Signature_	<i>Y</i> -	2013.09.30 16:35:20 -05 00

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APPENDIX A

OA REVIEW GENERAL DOCUMENTATION

Project #: E3796

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication, airbill, sample management lab chronicle, login page)	<u> </u>
Check chain-of-custody for proper relinquish/return of samples	\frac{\fir}{\fint}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}{\frac{\frac{\frac{\frac{\frac{\frac{\frac}{\frac}}}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}}}}}}{\frac}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}
Is the chain of custody signed and complete	<u> </u>
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	<u> </u>
Collect information for each project id from server. Were all requirements followed	<u> </u>
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	<u> </u>
Do lab numbers and client Ids on cover page agree with the Chain of Custody	<u> </u>
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	<u> </u>
Do requested analyses on Chain of Custody agree with the log-in page	' ' <u>'</u>
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	<u> </u>
Were the samples received within hold time	<u> </u>
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	<u> </u>
ANALYTICAL:	
Was method requirement followed?	<u> </u>
Was client requirement followed?	. 🗸
Does the case narrative summarize all QC failure?	/ / /
All runlogs and manual integration are reviewed for requirements	<u> </u>
All manual calculations and /or hand notations verified	<u> </u>

1st Level QA Review Signature:

Date: 09/30/2013

Mildred V. Reyes, QA/QC Supervisor 2013.09 30 16:35:07 -05'00'

2nd Level QA Review Signature:

CHEMIECH

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С

SAMPLE DATA

09/20/13 10:05 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 **RFP 265** Project: SDG No.: E3796 Client Sample ID: P001-DW-2001-1 SOIL Matrix: E3796-01 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	4.18		1	0	0	0	pН	09/23/13	09/23/13 09:40	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:06	9012B
Reactive Sulfide	 . 10	U	1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence

of interference.

OR = Over Range

09/20/13 10:15 Date Collected: Client: Weston Solutions, Inc. 09/20/13 Date Received: **RFP 265** Project: E3796 SDG No.: Client Sample ID: P001-DW-2003-1 SOIL Matrix: E3796-02 Lab Sample ID:

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	12.78	*	1	0	0	0	pН	09/23/13	09/23/13 09:48	SW9045C
Flashpoint	. 138	•	1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	~ 0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	10	U	1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

% Solid:

100

Comments:

matrix=liquid waste

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E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Client: Weston Solutions, Inc. Date Collected: 09/20/13 10:25 **RFP 265** Date Received: 09/20/13 Project: SDG No.: E3796 Client Sample ID: P001-DW-2004-1 SOIL Lab Sample ID: E3796-03 Matrix: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.08		1	0	0	0	pН	09/23/13	09/23/13 09:52	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	ប	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

D = Dilution

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

Date Collected: 09/20/13 10:25 Client: Weston Solutions, Inc. Date Received: 09/20/13 Project: **RFP 265** SDG No.: E3796 P001-DW-2006-1 Client Sample ID: SOIL Matrix: E3796-04 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.17		1	0	0	0	pН	09/23/13	09/23/13 09:56	SW9045C
Flashpoint	172		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:42	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



09/20/13 10:25 Date Collected: Weston Solutions, Inc. Client: Date Received: 09/20/13 **RFP 265** Project: SDG No.: E3796 P001-DW-2006-2 Client Sample ID: SOIL Matrix: E3796-05 Lab Sample ID: 100 % Solid:

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.86		1	0	0	0	pН	09/23/13	09/23/13 10:00	SW9045C
Flashpoint	145		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	υ .	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



09/20/13 10:35 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 RFP 265 Project: SDG No.: E3796 P001-DW-2007-1 Client Sample ID: SOIL Matrix: E3796-06 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.67		1	0	0	0	pН	09/23/13	09/23/13 10:04	SW9045C
Flashpoint	>212.0		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	_09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Client: Weston Solutions, Inc. Date Collected: 09/20/13 10:45 Project: RFP 265 Date Received: 09/20/13 Client Sample ID: P001-DW-2011-1 SDG No.: E3796 SOIL Lab Sample ID: E3796-07 Matrix: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.18	7.	1	0	0	0	pН	09/23/13	09/23/13 10:08	SW9045C
Flashpoint	>212.0		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	11		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

D = Dilution

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

09/20/13 10:55 Date Collected: Client: Weston Solutions, Inc. 09/20/13 Date Received: RFP 265 Project: SDG No.: E3796 P001-DW-6035-1 Client Sample ID: SOIL Matrix: E3796-08 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ/CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.04		1	0	0	0	pН	09/23/13	09/23/13 10:12	SW9045C
Flashpoint	>212.0 ½		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	Ū	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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E = Indicates the reported value is estimated because of the presence

of interference.

OR = Over Range

A B

Report of Analysis

Client: Weston Solutions, Inc. Date Collected: 09/20/13 11:40 Project: RFP 265 Date Received: 09/20/13 Client Sample ID: P001-S-2001-1 SDG No.: E3796 Lab Sample ID: Matrix: SOIL E3796-09 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.33	*:	1	0	0	0	pН	09/23/13	09/23/13 10:16	SW9045C
Ignitability	NO		ì	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	16		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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OR = Over Range

Date Collected: 09/20/13 11:55 Client: Weston Solutions, Inc. 09/20/13 Date Received: Project: RFP 265 SDG No.: E3796 P001-S-3001-1 Client Sample ID: Matrix: SOIL Lab Sample ID: E3796-10 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	4.54		1	0	0	0	pН	09/23/13	09/23/13 10:24	SW9045C
Ignitability	NO		1	0	0	0	٥C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	l	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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J = Estimated Value

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OR = Over Range

Date Collected: 09/20/13 11:55 Client: Weston Solutions, Inc. Project: RFP 265 Date Received: 09/20/13 SDG No.: E3796 Client Sample ID: P001-S-3001-2 SOIL Matrix: Lab Sample ID: E3796-11 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.42 ゴ		1	0	0	0	pН	09/23/13	09/23/13 10:32	SW9045C
Ignitability	NO		. 1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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Date Collected: 09/20/13 12:30 Client: Weston Solutions, Inc. Date Received: 09/20/13 Project: **RFP 265** SDG No.: E3796 P001-S-3002-1 Client Sample ID: Matrix: SOIL Lab Sample ID: E3796-12 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.23		1	0	0	0	рĦ	09/23/13	09/23/13 10:36	SW9045C
Ignitability	NO Î		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	' U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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OR = Over Range

09/20/13 12:50 Date Collected: Weston Solutions, Inc. Client: Date Received: 09/20/13 RFP 265 Project: E3796 SDG No.: P001-S-3003-1 Client Sample ID: SOIL Matrix: Lab Sample ID: E3796-13 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.66	:	1	0	0	0	pН	09/23/13	09/23/13 10:40	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cvanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	11		ī	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

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of interference.

OR = Over Range



09/20/13 13:15 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 **RFP 265** Project: SDG No.: E3796 Client Sample ID: P001-S-6001-1 Matrix: SOIL E3796-14 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.71		1	0	0	0	pН	09/23/13	09/23/13 10:44	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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OR = Over Range



09/20/13 13:30 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 RFP 265 Project: SDG No.: E3796 P001-S-6002-1 Client Sample ID: SOIL Matrix: E3796-15 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.55		1	0	0	0	pН	09/23/13	09/23/13 10:48	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	16		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

U = Not Detected

LOQ = Limit of Quantitation

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OR = Over Range

Parameter

Ignitability

Corrosivity (as pH)

Reactive Cyanide

Reactive Sulfide

Report of Analysis

0

0

0.05

10

mg/Kg

mg/Kg

09/20/13 13:40 Date Collected: Weston Solutions, Inc. Client: Date Received: 09/20/13 **RFP 265** Project: SDG No.: E3796 P001-S-6003-1 Client Sample ID: SOIL Matrix: Lab Sample ID: E3796-16

LOD

0.05

10

0

DF

1

1 0

1

Qua.

U

Conc.

12.96

NO

0.05

13

MDL

0.05

10

0

% Solid: 100 Ana Met. LOQ/CRQL Units Prep Date SW9045C 09/23/13 09/23/13 10:52 рH 09/23/13 09/23/13 09:30 1030 ٥C

09/24/13 10:21

09/23/13 13:10

09/23/13

09/23/13

9012B

9034

В

Comments:

U = Not Detected

LOO = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence

of interference.

OR = Over Range



LAB CHRONICLE

OrderID: Client:	E3796 Weston Solutions, Inc.			OrderDate: Project:	9/20/2013 4:20:04 PM RFP 265	04 PM		-
Contact:	Smita Sumbaly			Location:	1 1 1			
LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
E3796-01	P001-DW-2001-1	SOIL			09/20/13 10:05	10		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 09:40	40
			Ignitability	1030		09/23/13	09/23/13 09:30	30
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:06	90
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	10
E3796-02	P001-DW-2003-1	SOIL			09/20/13 10:15	ın		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 09:48	48
			Flash Point	1010A		09/23/13	09/23/13 12:15	15 .
			Reactive Cyanide	90128		09/23/13	09/24/13 10:14	14
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	10
E3796-03	P001-DW-2004-1	SOIL			09/20/13 10:25	ın		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 09:52	52
			Ignitability	1030		09/23/13	09/23/13 09:30	30
			Reactive Cyanide	90128		09/23/13	09/24/13 10:14	14
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	10
E3796-04	P001-DW-2006-1	SOIL			09/20/13 10:25	ιύ		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 09:56	56
			Flash Point	1010A		09/23/13	09/23/13 12:15	:15
			Reactive Cyanide	90128		09/23/13	09/24/13 10:42	:42
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	10
E3796-05	5 P001-DW-2006-2	SOIL			09/20/13 10:25	ιά		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 10:00	00:
			Flash Point	1010A		09/23/13	09/23/13 12:15	:15
			Reactive Cyanide	90128		09/23/13	09/24/13 10:14	:14
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	:10
E3796-06	5 P001-DW-2007-1	SOIL			09/20/13 10:35	2		09/20/13
			Corrosivity	9045C		09/23/13	09/23/13 10:04	:04
			Flash Point	1010A		09/23/13	09/23/13 12:15	:15

E3796

4

CESTIECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

			LAB CHRONICLE	F			
			Reactive Cyanide Reactive Sulfide	9012B 9034	09/23/13 09/23/13		09/24/13 10:14 09/23/13 13:10
E3796-07	P001-DW-2011-1	SOIL			09/20/13 10:45		09/20/13
			Corrosivity	9045C	09/23/13		09/23/13 10:08
			Flash Point	1010A	09/23/13		09/23/13 12:15
			Reactive Cyanide	9012B	09/23/13		09/24/13 10:14
			Reactive Sulfide	9034	09/23/13		09/23/13 13:10
E3796-08	P001-DW-6035-1	SOIL			09/20/13 10:55		09/20/13
			Corrosivity	9045C	09/23/13		09/23/13 10:12
			Flash Point	1010A	09/23/13		09/23/13 12:15
			Reactive Cyanide	9012B	09/23/13		09/24/13 10:14
			Reactive Sulfide	9034	09/23/13		09/23/13 13:10
E3796-09	P001-S-2001-1	SOIL			09/20/13 11:40		09/20/13
			Corrosivity	9045C	09/23/13		09/23/13 10:16
			Ignitability	1030	09/23/13		09/23/13 09:30
			Reactive Cyanide	90128	09/23/13		09/24/13 10:14
			Reactive Sulfide	9034	09/2	09/23/13 09,	09/23/13 13:10
E3796-10	P001-S-3001-1	SOIL			09/20/13 11:55		09/20/13
			Corrosivity	9045C	09/2	09/23/13 09/	09/23/13 10:24
			Ignitability	1030	09/23/13		09/23/13 09:30
			Reactive Cyanide	9012B	09/2		09/24/13 10:14
			Reactive Sulfide	9034	2/60	09/23/13 09/	09/23/13 13:10
E3796-11	P001-S-3001-2	SOIL			09/20/13 11:55		09/20/13
			Corrosivity	9045C	09/2	09/23/13 09,	09/23/13 10:32
			Ignitability	1030	09/2		09/23/13 09:30
			Reactive Cyanide	9012B	09/2		09/24/13 10:21
	• •		Reactive Sulfide	9034	2/60	09/23/13 09	09/23/13 13:10
E3796-12	P001-S-3002-1	SOIL			09/20/13 12:30		09/20/13
			Corrosivity	9045C	09/2		09/23/13 10:36
			Ignitability	1030	2/60		09/23/13 09:30
			Reactive Cyanide	9012B	09/2		09/24/13 10:21
			Reactive Sulfide	9034	09/2	09/23/13 09,	09/23/13 13:10
E3796-13	P001-S-3003-1	SOIL			09/20/13 12:50		09/20/13
			Corrosivity Ignitability	9045C 1030	09/2 09/2	09/23/13 09, 09/23/13 09,	09/23/13 10:40 09/23/13 09:30

CENTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

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			Reactive Cyanide Reactive Sulfide	9012B 9034	09/23/13 09/23/13	09/24/13 10:21 09/23/13 13:10
E3796-14	P001-S-6001-1	SOIL			09/20/13 13:15	09/20/13
			Corrosivity	9045C	09/23/13	09/23/13 10:44
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	90128	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10
E3796-15	P001-S-6002-1	SOIL			09/20/13 13:30	09/20/13
			Corrosivity	9045C	09/23/13	09/23/13 10:48
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10
E3796-16	P001-S-6003-1	SOIL		•	09/20/13 13:40	09/20/13
			Corrosivity	9045C	09/23/13	09/23/13 10:52
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
,			Reactive Sulfide	9034	09/23/13	09/23/13 13:10

SHIPPING DOCUMENTS

E3796 **26 of 31**

Page 1 of 1

CarrierName: Courier Pick Up DateShipped 9/20/2013 AirbillNo N/A

CHAIN OF CUSTODY RECORD

RFP No. 263 / Weston Solutions

Contact Phone: 732-570-4993 Contact Name: Scott Snyder

No: 2-092013-122035-0017

Lab: ChemTech Cooler # 1 of 1 Lab Phone: MS/MSD z z z z z Preservative 4 C 4 C 4 C 4 0 4 0 4 0 **4** Numb Container Cont 8-oz. jar 8-oz. jar 1 8-oz. jar 8-oz. jar 1 8-oz. jar 8-oz. jar 1 8-oz. jar 8-oz. jar 8-oz. jar 8-oz. jar 1 8-oz. jar 1 8-oz. jar 8-oz. jar 8-oz. jar 8-oz. jar 1 | 8-oz. jar 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 9/20/2013 Collected Liquid Waste Matrix Sol Soil Soil Soil Soil Soil Soll Soil RCRA Characteristics RCRA Characterisitos RCRA Characteristics RCRA Characteristics RCRA Characteristics RCRA Characteristics RCRA Characterisitcs RCRA Characteristics RCRA Characteristics RCRA Characteristics Analyses Location Area 03 Area 03 Area 06 Area 02 Area 02 Area 02 Area 06 Area 02 Area 03 Area 03 Area 06 Area 06 **Area 02** Area 02 Area 02 **Area** 02 P001-DW-2001-1 P001-DW-2004-1 P001-DW-2006-2 P001-DW-2007-1 P001-DW-2011-1 P001-DW-2006-1 P001-DW-2003-1 P001-DW-6035-1 P001-S-2001-1 P001-S-3001-2 P001-S-3001-1 P001-S-6001-1 P001-S-6002-1 P001-S-3003-1 P001-S-3002-1 P001-S-6003-1 Sample # Lab#

SAMPLES TRANSFERRED FROM	CHAIN OF CUSTODY #	W(1)
	Special Instructions:	

Commence of the commence of th			a te	E E	Items/Reason	Relinguished By	Date	Received by	Date	e III
Je ole		Necelved by	200	2						
The Contract of the Contract o	cifoz/6	1/2 /2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	J. 9.1011 (1634	1891						
	1835	O.K.	1 9/7 K35	1835						
الما مات	2007		7 7 7 7	3						

(another Gopy of chain was recieved esting email with sample Collection times)

Chris – The correct RFP no is 265.

Smita Sumbaly

Chemist QA/QC Specialist

Weston Solutions, Inc.

1090 King Georges Post Road

Suite 201, Edison, NJ 08837

Phone: 732-585-4410

Fax: 732-225-7037

From: Chris Wolski [mailto:c.wolski@chemtech.net]

Sent: Friday, September 20, 2013 4:37 PM

To: Sumbaly, Smita

Subject: RE: ChemTech COC

Also can you confirm the RFP number, is it really 263 or is it supposed to be 265?

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922

Description: untitled2

From: Sumbaly, Smita [mailto:S.Sumbaly@WestonSolutions.com]

Sent: Friday, September 20, 2013 4:16 PM To: Chris Wolski (c.wolski@chemtech.net)

Subject: FW: ChemTech COC

See below COC, make sure 24 hours TAT required for all samples.

Smita Sumbaly

Chemist QA/QC Specialist

Weston Solutions, Inc.

1090 King Georges Post Road

Suite 201, Edison, NJ 08837

Phone: 732-585-4410

Fax: 732-225-7037

Begin forwarded message:

From: "Snyder, Scott" < S.Snyder@WestonSolutions.com>

Date: September 20, 2013, 14:18:49 EDT

To: "Lisichenko, Peter" < Peter. Lisichenko@westonsolutions.com>

Subject: ChemTech COC

Sent from my iPhone

Page 1 of 1

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E3796

CONFIDENTIALITY: This email and attachments may contain information which is confidential and proprietary. Disclosure or use of any such confidential or proprietary information without the written permission of Weston Solutions, Inc. is strictly prohibited. If you received this email in error, please notify the sender by return e-mail and delete this email from your system. Thank you.

E3796 31 of 31



DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME: RFP 265

WESTON SOLUTIONS, INC.

Raritan Plaza Suite 201

1090 King Georges Post Road

Edison, NJ - 08837-3703

Phone No: 732-225-6116

ORDER ID: E3796

ATTENTION: Smita Sumbaly







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E3796-GENCHEM



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Cover Page

Order ID: E3796

RFP 265 Project ID:

> Weston Solutions, Inc. Client:

Lab Sample Number

Client Sample Number

E3796-01	P001-DW-2001-1
E3796-02	P001-DW-2003-1
E3796-03	P001-DW-2004-1
E3796-04	P001-DW-2006-1
E3796-05	P001-DW-2006-2
E3796-06	P001-DW-2007-1
E3796-07	P001-DW-2011-1
E3796-08	P001-DW-6035-1
E3796-09	P001-S-2001-1
E3796-10	P001-S-3001-1
E3796-11	P001-S-3001-2
E3796-12	P001-S-3002-1
E3796-13	P001-S-3003-1
E3796-14	P001-S-6001-1
E3796-15	P001-S-6002-1
E3796-16	P001-S-6003-1

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Aldred V Reys

Mildred V. Reyes, QA/QC Supervisor

Signature:

2013.09.30 16:36:43 -05'00'

Date: 9/30/2013

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

E3796-GENCHEM

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284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Weston Solutions, Inc. Project Name: RFP 265

Project # N/A

Chemtech Project # E3796

Test Name: Corrosivity, Flash Point, Ignitability, Reactive Cyanide, Reactive Sulfide

A. Number of Samples and Date of Receipt:

16 Solid samples were received on 09/20/2013.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Corrosivity, Flash Point, Ignitability, RCRA CHARACTERISTICS, Reactive Cyanide and Reactive Sulfide. This data package contains results for Corrosivity, Flash Point, Ignitability, Reactive Cyanide, Reactive Sulfide.

C. Analytical Techniques:

The analysis of Flash Point was based on method 1010A, The analysis of Ignitability was based on method 1030, The analysis of Reactive Cyanide was based on method 9012B, The analysis of Reactive Sulfide was based on method 9034 and The analysis of Corrosivity was based on method 9045C.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments: Fax result for sample no. P001-DW-2007-1 was reported incorrect for reactive sulfide. Hard copy data is correct.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature____ HI due V Reyes

Mildred V. Reyes, QA/QC Supervisor 2013.09.30 16:36:33 -05'00'

E3796-GENCHEM

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DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following "Results Qualifiers" are used:

	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers "P" for ICP instrument "PM" for ICP when Microwave Digestion is used "CV" for Manual Cold Vapor AA "AV" for automated Cold Vapor AA "CA" for MIDI-Distillation Spectrophotometric "AS" for Semi - Automated Spectrophotometric "C" for Manual Spectrophotometric "T" for Titrimetric "NR" for analyte not required to be analyzed Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
н	Sample Analysis Out Of Hold Time



GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: E3796

MATRIX: Solid

METHOD: 1010A/9045C /1030 /9034/9012B

1.	Blank Contamination - If yes, list compounds and concentrations in each blank:	NA	NO ✓	YES	
2.	Matrix Spike Duplicate Recoveries Met Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range. The Blank Spike met requirements for all samples.			✓	
3.	Sample Duplicate Analysis Met QC Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓	
8.	Digestion Holding Time Met If not met, list number of days exceeded for each sample:			✓	

ADDITIONAL COMMENTS: Fax result for sample no. P001-DW-2007-1 was reported incorrect for reactive sulfide. Hard copy data is correct.

Nimisha

2013.09.30 16:24:33 -05'00'

QA REVIEW

Date



APPENDIX A

OA REVIEW GENERAL DOCUMENTATION

Project #: E3796

Completed For thorough review, the report must have the following: **GENERAL:** Are all original paperwork present (chain of custody, record of communication, airbill, sample management lab chronicle, login page) Check chain-of-custody for proper relinquish/return of samples Is the chain of custody signed and complete Check internal chain-of-custody for proper relinquish/return of samples /sample extracts Collect information for each project id from server. Were all requirements followed **COVER PAGE:** Do numbers of samples correspond to the number of samples in the Chain of Custody on login page Do lab numbers and client Ids on cover page agree with the Chain of Custody **CHAIN OF CUSTODY:** Do requested analyses on Chain of Custody agree with form I results Do requested analyses on Chain of Custody agree with the log-in page Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody Were the samples received within hold time Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle ANALYTICAL: Was method requirement followed? Was client requirement followed? Does the case narrative summarize all QC failure? All runlogs and manual integration are reviewed for requirements All manual calculations and /or hand notations verified

1st Level OA Review Signature:

NIMISHA PANDYA

Date: 09/30/2013

2nd Level QA Review Signature:

Mildred V. Reyes, QA/QC Supervisor 2013.09,30 16:36:19 -05'00'

E3796-GENCHEM

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LAB CHRONICLE

OrderID: Client:

Contact:

E3796

Weston Solutions, Inc.

Smita Sumbaly

OrderDate:

9/20/2013 4:20:04 PM

Project: Location: RFP 265

E12

LabID	ClientID	Matrix	Test	Method	Sample Da	e Prep Date	Anal Date	Received
E3796-01	P001-DW-2001-1	SOIL			09/20/13 1	0:05		09/20/1
			Corrosivity	9045C		09/23/13	09/23/13 09	:40
	-		Ignitability	1030		09/23/13	09/23/13 09	:30
			Reactive Cyanide	9012B		09/23/13	09/24/13 10	:06
			Reactive Sulfide	9034		09/23/13	09/23/13 13	:10
E3796-02	P001-DW-2003-1	SOIL			09/20/13 1	0:15		09/20/1
			Corrosivity	9045C		09/23/13	09/23/13 09	:48
			Flash Point	1010A		09/23/13	09/23/13 12	:15
			Reactive Cyanide	9012B		09/23/13	09/24/13 10	:14
			Reactive Sulfide	9034		09/23/13	09/23/13 13	:10
E3796-03	P001-DW-2004-1	SOIL			09/20/13 1	0:25		09/20/1
			Corrosivity	9045C		09/23/13	09/23/13 09	:52
			Ignitability	1030		09/23/13	09/23/13 09	:30
			Reactive Cyanide	9012B		09/23/13	09/24/13 10	:14
			Reactive Sulfide	9034		09/23/13	09/23/13 13	3:10
3796-04	P001-DW-2006-1	SOIL			09/20/13 1	0:25		09/20/
			Corrosivity	9045C		09/23/13	09/23/13 09	:56
			Flash Point	1010A		09/23/13	09/23/13 12	2:15
			Reactive Cyanide	9012B		09/23/13	09/24/13 10):42
			Reactive Sulfide	9034		09/23/13	09/23/13 13	3:10
E3796-05	P001-DW-2006-2	SOIL			09/20/13	0:25		09/20/1
			Corrosivity	9045C		09/23/13	09/23/13 10	0:00
			Flash Point	1010A		09/23/13	09/23/13 12	2:15
			Reactive Cyanide	9012B		09/23/13	09/24/13 10):14
			Reactive Sulfide	9034		09/23/13	09/23/13 13	3:10
3796-06	P001-DW-2007-1	SOIL	•		09/20/13	10:35		09/20/
			Corrosivity	9045C		09/23/13	09/23/13 10	0:04
			Flash Point	1010A		09/23/13	09/23/13 12	2:15



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	10	CHICOLLE	

			December Greenles	9012B		09/23/13	09/24/13 10:14	
			Reactive Cyanide	9012B 9034		09/23/13	09/23/13 13:10	
			Reactive Sulfide	9034		03/23/13	•	
E3796-07	P001-DW-2011-1	SOIL			09/20/13	10:45	09/20	0/13
			Corrosivity	9045C		09/23/13	09/23/13 10:08	
			Flash Point	1010A		09/23/13	09/23/13 12:15	
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:14	
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	
E2706-09	P001-DW-6035-1	SOIL		•	09/20/13	10:55	09/20	0/13
E3796-08	P001-DW-0033-1	JOIL	Corrosivity	9045C	00, 00, 00	09/23/13	09/23/13 10:12	
			Flash Point	1010A		09/23/13	09/23/13 12:15	
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:14	
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	
			Keactive Sunde	J054		• •	• •	
E3796-09	P001-S-2001-1	SOIL			09/20/13		09/2	0/13
			Corrosivity	9045C		09/23/13	09/23/13 10:16	
			Ignitability	1030		09/23/13	09/23/13 09:30	
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:14	
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	
E3796-10	P001-S-3001-1	SOIL			09/20/13	11:55	09/2	0/13
E3790-10	F001-3-5001-1	5512	Corrosivity	9045C		09/23/13	09/23/13 10:24	
			Ignitability	1030		09/23/13	09/23/13 09:30	
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:14	
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	
					09/20/13	11.55	09/2	20/13
E3796-11	P001-S-3001-2	SOIL		22450	. 09/20/13	09/23/13	09/23/13 10:32	,
			Corrosivity	9045C		09/23/13	09/23/13 10:32	
			Ignitability	1030		09/23/13	09/24/13 10:21	
			Reactive Cyanide	9012B		09/23/13	09/23/13 13:10	
			Reactive Sulfide	9034		09/23/13		
E3796-12	P001-S-3002-1	SOIL			09/20/13	12:30	09/2	20/13
			Corrosivity	9045C		09/23/13	09/23/13 10:36	
			Ignitability	1030		09/23/13	09/23/13 09:30	
			Reactive Cyanide	9012B		09/23/13	09/24/13 10:21	
			Reactive Sulfide	9034		09/23/13	09/23/13 13:10	
E3796-13	P001-S-3003-1	SOIL			09/20/13	12:50	09/2	20/13
E3/30-13	FUU1-3-3UU3-1	JOIL	Corrosivity	9045C	,,	09/23/13	09/23/13 10:40	
			Ignitability	1030		09/23/13	09/23/13 09:30	
	,		tymicaumicy	1030		05/25/25	,,	



			TAR CHRONI	CLE	• ,	
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10
E3796-14	P001-S-6001-1	SOIL		•	09/20/13 13:15	09/20/13
	•		Corrosivity	9045C	09/23/13	09/23/13 10:44
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10
E3796-15	P001-S-6002-1	SOIL			09/20/13 13:30	09/20/13
			Corrosivity	9045C	09/23/13	09/23/13 10:48
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10
E3796-16	P001-S-6003-1	SOIL			09/20/13 13:40	09/20/13
			Corrosivity	9045C	09/23/13	09/23/13 10:52
			Ignitability	1030	09/23/13	09/23/13 09:30
			Reactive Cyanide	9012B	09/23/13	09/24/13 10:21
			Reactive Sulfide	9034	09/23/13	09/23/13 13:10

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SAMPLE DATA



Report of Analysis

				1
Client:	Weston Solutions, Inc.	Date Collected:	09/20/13 10:05	
Project:	RFP 265	Date Received:	09/20/13	
Client Sample	P001-DW-2001-1	SDG No.:	E3796	
Lab Sample II	D: E3796-01	Matrix:	SOIL	
		% Solid:	100	

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	4.18		1	0	0	0	pН	09/23/13	09/23/13 09:40	SW9045C
Ignitability	NO		1	0	0	0	٥C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:06	9012B
Reactive Sulfide	10	U	1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence

of interference.

OR = Over Range



Report of Analysis

09/20/13 10:15 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 **RFP 265** Project: E3796 SDG No.: P001-DW-2003-1 Client Sample ID: SOIL Matrix: E3796-02 Lab Sample ID: % Solid: 100

09/23/13	09/23/13 09:48	CITIONAEC
	07/23/13 07.10	SW9045C
09/23/13	09/23/13 12:15	1010A
g 09/23/13	09/24/13 10:14	9012B
g 09/23/13	09/23/13 13:10	9034
٦	g 09/23/13	g 09/23/13 09/24/13 10:14

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

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OR = Over Range



Report of Analysis

09/20/13 10:25 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 **RFP 265** Project: SDG No.: E3796 Client Sample ID: P001-DW-2004-1 SOIL Matrix: Lab Sample ID: E3796-03 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.08	1	1	0	0	0	pН	09/23/13	09/23/13 09:52	SW9045C
Ignitability	NO	1	1	0	0	0	٥C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Report of Analysis

Client: Weston Solutions, Inc.

09/20/13 10:25 Date Collected:

Project:

RFP 265

09/20/13

Client Sample ID:

P001-DW-2006-1

SDG No.:

E3796 SOIL

6

Lab Sample ID:

E3796-04

Matrix: % Solid:

Date Received:

100

Parameter	Conc.	Qua.	DF_	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.17	•	1	0	0	0	pН	09/23/13	09/23/13 09:56	SW9045C
Flashpoint	172		1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:42	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Report of Analysis

				1
Client:	Weston Solutions, Inc.	Date Collected:	09/20/13 10:25	
Project:	RFP 265	Date Received:	09/20/13	i
Client Sample ID:	P001-DW-2006-2	SDG No.:	E3796	8.2.2
Lab Sample ID:	E3796-05	Matrix:	SOIL	
		% Solid:	100	

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQI	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.86		1	0	0	0	pН	09/23/13	09/23/13 10:00	SW9045C
Flashpoint	145		1	0	0	. 0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

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H = Sample Analysis Out Of Hold Time

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OR = Over Range



Report of Analysis

				16
Client:	Weston Solutions, Inc.	Date Collected:	09/20/13 10:35	# # #
Project:	RFP 265	Date Received:	09/20/13	
Client Sample ID:	P001-DW-2007-1	SDG No.:	E3796	14.
Lab Sample ID:	E3796-06	Matrix:	SOIL	
		% Solid:	100	

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.67	-	1	0	0	0	рН	09/23/13	09/23/13 10:04	SW9045C
Flashpoint	>212.0	,	1	0	0	0	o F	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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of interference.

OR = Over Range



Report of Analysis

				1
Client:	Weston Solutions, Inc.	Date Collected:	09/20/13 10:45	}
Project:	RFP 265	Date Received:	09/20/13	1
Client Sample ID:	P001-DW-2011-1	SDG No.:	E3796	
Lab Sample ID:	E3796-07	Matrix:	SOIL	
		% Solid:	100	

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQI	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.18	•	1	0	0	0	pН	09/23/13	09/23/13 10:08	SW9045C
Flashpoint	>212.0		1	0	0	0	οF	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	11		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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of interference.

OR = Over Range



Report of Analysis

Date Collected: 09/20/13 10:55 Client: Weston Solutions, Inc. Date Received: 09/20/13 RFP 265 Project: E3796 SDG No.: Client Sample ID: P001-DW-6035-1 Matrix: SOIL Lab Sample ID: E3796-08 100 % Solid:

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ/CRO	QL Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.04	,	1	0	0	0	pН	09/23/13	09/23/13 10:12	SW9045C
Flashpoint	>212.0		1	0	0	0	οF	09/23/13	09/23/13 12:15	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

matrix=liquid waste

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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E = Indicates the reported value is estimated because of the presence

of interference.

OR = Over Range



Report of Analysis

				1
Client:	Weston Solutions, Inc.	Date Collected:	09/20/13 11:40	
Project:	RFP 265	Date Received:	09/20/13	
Client Sample ID:	P001-S-2001-1	SDG No.:	E3796	
Lab Sample ID:	E3796-09	Matrix:	SOIL	
		% Solid:	100	

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.33		1	0	0	0	pН	09/23/13	09/23/13 10:16	SW9045C
Ignitability	NO		1	0	0	0	٥C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	16		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

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of interference.

OR = Over Range



Report of Analysis

09/20/13 11:55 Date Collected: Client: Weston Solutions, Inc. Date Received: 09/20/13 **RFP 265** Project: E3796 SDG No.: P001-S-3001-1 Client Sample ID: SOIL Matrix: Lab Sample ID: E3796-10 100 % Solid: 6

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	4.54		1	0	0	0	pН	09/23/13	09/23/13 10:24	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cvanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:14	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

U = Not Detected

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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of interference.

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Report of Analysis

Date Collected: 09/20/13 11:55 Client: Weston Solutions, Inc. Date Received: 09/20/13 RFP 265 Project: SDG No.: E3796 Client Sample ID: P001-S-3001-2 Matrix: SOIL E3796-11 Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CR	QL Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.42		1	0	0	0	pН	09/23/13	09/23/13 10:32	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	13		1	10	10	10 .	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

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Report of Analysis

09/20/13 12:30 Date Collected: Weston Solutions, Inc. Client: Date Received: 09/20/13 Project: RFP 265 SDG No.: E3796 P001-S-3002-1 Client Sample ID: SOIL Matrix: Lab Sample ID: E3796-12 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LÒD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.23		1	0	0	0	рН	09/23/13	09/23/13 10:36	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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OR = Over Range



Report of Analysis

Date Collected: 09/20/13 12:50 Client: Weston Solutions, Inc. Date Received: 09/20/13 Project: **RFP 265** E3796 SDG No.: P001-S-3003-1 Client Sample ID: Matrix: SOIL Lab Sample ID: E3796-13 % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQI	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.66		1	0	0	0	рН	09/23/13	09/23/13 10:40	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	11		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

U = Not Detected

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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of interference.

OR = Over Range



Report of Analysis

Client: Weston Solutions, Inc. Date Collected: 09/20/13 13:15

Project:

Date Received:

Client Sample ID:

RFP 265

SDG No.:

09/20/13

P001-S-6001-1

Matrix:

E3796 SOIL

Lab Sample ID:

E3796-14

% Solid:

100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.71		ì	0	0	0	pН	09/23/13	09/23/13 10:44	SW9045C
Ignitability	NO		1	0	0	0	٥C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	14		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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LOD = Limit of Detection

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H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Report of Analysis

Date Collected: 09/20/13 13:30 Client: Weston Solutions, Inc. 09/20/13 Date Received: **RFP 265** Project: E3796 SDG No.: P001-S-6002-1 Client Sample ID: SOIL E3796-15 Matrix: Lab Sample ID: % Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRO	QL Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.55		ì	0	0	0	pН	09/23/13	09/23/13 10:48	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	Ū	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	16		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

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LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range



Report of Analysis

Date Collected: 09/20/13 13:40 Client: Weston Solutions, Inc. 09/20/13 Date Received: RFP 265 Project: SDG No.: E3796 P001-S-6003-1 Client Sample ID: Matrix: SOIL E3796-16 Lab Sample ID: 100 % Solid:

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	12.96	-	1	0	0	0	pН	09/23/13	09/23/13 10:52	SW9045C
Ignitability	NO		1	0	0	0	o C	09/23/13	09/23/13 09:30	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/23/13	09/24/13 10:21	9012B
Reactive Sulfide	13		1	10	10	10	mg/Kg	09/23/13	09/23/13 13:10	9034

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

GEMTECH

QC RESULT SUMMARY

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Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. SDG No.: E3796

Project: RFP 265 RunNo.: LB67824

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: Corrosivity	ICV1 (as pH)	рН	7.01	7.00	100	90-110	09/23/2013
Sample ID: Corrosivity	CCV1 (as pH)	рĦ	2.02	2.00	101	90-110	09/23/2013
Sample ID: Corrosivity	CCV2	рĦ	2.01	2.00	101	90-110	09/23/2013
Sample ID: Corrosivity	CCV3	pН	12.01	12.00	100	90-110	09/23/2013



Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc.

Project: RFP 265

SDG No.: E3796

RunNo.: LB67825

Analyte	·	Units	Resu <u>l</u> t	True Value_	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: Flashpoint	ICV1	o F	81.00	81.50	99	90-110	09/23/2013



Initial and Continuing Calibration Verification

SDG No.: E3796 Client: Weston Solutions, Inc. LB67833 RunNo.: Project: RFP 265

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: Reactive	CCV1 Cyanide	mg/L	0.24	0.25	96	90-110	09/24/2013
Sample ID: Reactive	ICV1 Cyanide	mg/L	0.09	0.10	90 -	85-115	09/24/2013
Sample ID: Reactive	CCV2 Cyanide	ng/L	0.24	0.25	96	90-110	09/24/2013
Sample ID: Reactive	CCV3 Cyanide	mg/L	0.24	0.25	96	90-110	09/24/2013
Sample ID: Reactive		mg/L	0.26	0.25	104	90-110	09/24/2013







Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. SDG No.: E3796

Project: RFP 265 RunNo.: LB67833

Analyte Units Result True Value Recovery Window (%R) Date.



Initial and Continuing Calibration Blank Summary

Client: Weston Solutions, Inc. SDG No.: E3796

Project: RFP 265 RunNo.: LB67833

Analyte	Units	Result	Acceptance Limits	MDL	RDI.	Analysis Date
Sample ID: CCB1 Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/24/2013
Sample ID: ICB1 Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/24/2013
Sample ID: CCB2 Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/24/2013
Sample ID: CCB3 Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/24/2013
Sample ID: CCB4 Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/24/2013



Initial and Continuing Calibration Blank Summary

Client:	Weston Solutions, Inc.	SDG No.:	E3796
Project:	RFP 265	RunNo.:	LB67833

Analyte Units Result Limits RDI. Date



Preparation Blank Summary

Client: Weston Solutions, Inc. SDG No.: E3796

Project: RFP 265

			Acceptance			Analysis
Analyte	Unite	Result	Limits	MDL	RDI.	Date
Sample ID: Reactive	LB67827BLS Sulfide mg/Kg	< 10.00	+/-10.00	10.00	10.00	09/23/2013
Sample ID: Reactive	LB67833BLS Cyanide mg/Kg	< 0.050	+/-0.050	0.050	0.050	09/24/2013

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Matrix Spike Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3770-03

Client ID:

CARSON-50S

Percent Solids for Spike Sample:

Analyte	Units	Acceptance Limit %R	Spiked Result	c	Sample Result	c	Spike Added	Dilution Factor	% Rec	Analysis Qual Date	
Reactive Cyanide	mg/Kg	48-158	0.23		0.05	U	0.40	1	58	09/24/2013	
Reactive Sulfide	mg/Kg	75-125	211.0		10.0	U	250.00	1	84	09/23/2013	



Duplicate Sample Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3770-03

Client ID:

CARSON-50D

Percent Solids for Spike Sample:

100

		Acceptance	Sample	c	Duplicate		Dilution	RPD/		Analysis
Analyte	Units	Limit	Result		Result	С	Factor	AD	Onal	Date
Reactive Cyanide	mg/Kg	+/-20	0.050	U	0.050	U	1	0		09/24/2013
Reactive Sulfide	mg/Kg	+/-20	10.00	U	10.00	U	1	0		09/23/2013

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Duplicate Sample Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3795-01

Client ID:

IDW-SOIL-1D

Percent Solids for Spike Sample:

100

		Acceptance		C	Duplicate		Dilution	RPD/		Analysis	
Analyte	Units	<u>Limit</u>	Result		Result	С	Factor	AD	Onal	Date	
Ignitability	0 C	+/-20	NO		NO		1	0		09/23/2013	,

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Duplicate Sample Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3795-02

Client ID:

IDW-WATER-1D

Percent Solids for Spike Sample:

0

		Acceptance	Sample	c	Duplicate		Dilution	RPD/		Analysis	
Analyte	Units	Limit	Result		Result	С	Factor	AD	Onal	Date	
Flashpoint	o F	+/-20	>212.0		>212.0		1	0		09/23/2013	

E3796-GENCHEM

40 of 136



Duplicate Sample Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3796-01

Client ID:

P001-DW-2001-1D

Percent Solids for Spike Sample:

100

		Acceptance	Sample	_	Duplicate		Dilution	RPD/		Analysis	
Analyte	Units	Limit	Result		Result	С	Factor	AD	Onal	Date	
Corrosivity (as pH)	pН	+/-20	4.180		4.190		1	0.2		09/23/2013	

E3796-GENCHEM

41 of 136



Duplicate Sample Summary

Client:

Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Sample ID:

E3796-10

Client ID:

P001-S-3001-1D

Percent Solids for Spike Sample:

100

		Acceptance	Sample	C	Duplicate		Dilution	RPD/		Analysis	
Analyte	Units	Limit	Result		Result	C	Factor	AD	Onal	Date	
Compositivi (oc. pH)	- H	+/-20	4 540		4.550		1	0.2		09/23/2013	

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Laboratory Control Sample Summary

Client: Weston Solutions, Inc. SDG N

SDG No.: E3796

Project: RFP 265 Run No.: LB67827

		True		•	%	Dilution	Acceptance	Analysis	
Analyte	Units	Value	Result	C	Recovery	Factor	Limit %R	Date	_
Sample ID LB67827BSS		250.00	212.00		95	1	80 - 120	09/23/2013	
Reactive Sulfide	mg/Kg	250.00	213.00		85	1	80-120	09/23/2	013

E3796-GENCHEM



Laboratory Control Sample Summary

Client:Weston Solutions, Inc.SDG No.:E3796Project:RFP 265Run No.:LB67833

Analyte	Units	True Value	Result	С	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB67833RSS Reactive Cyanide	mg/Kg	2.00	1.86		93	1	85-115	09/24/2013

E3796-GENCHEM



Method Detection Limits

Client: Weston Solutions, Inc.

SDG No.:

E3796

Project:

RFP 265

Analyte	Units	MDL	RDL	
Method: 1010A Flashpoin	t	MDL Date:	01/15/2006	
Matrix Category: LIC	QUID			
Flashpoint	o F	0.00	0.00	
Matrix Category: SO	LIDS			
Flashpoint	o F	0.00	0.00	
Method: 1030 Ignitability		MDL Date:	01/15/2006	
Matrix Category: SO	LIDS			
Ignitability	0 C	150.00	150.00	
Method: 9012B Reactive	Cyanide	MDL Date:	01/15/2006	
Matrix Category: LIC	QUID			
Reactive Cyanide	mg/L	0.005	0.005	
Matrix Category: SO	LIDS			
Reactive Cyanide	mg/Kg	0.050	0.050	
Method: 9034 Reactive St	ılfide	MDL Date:	01/15/2006	
Matrix Category: SO	LIDS			
Reactive Sulfide	mg/Kg	10.00	10.00	
Method: 9045C Corrosivi	ty	MDL Date:	01/15/2006	
Matrix Category: LIC	QUID			
Corrosivity (28 pH)	рН	0.00	0.00	
Matrix Category: SO	LIDS			
Corrosivity (as pH)	рН	0.00	0.00	

E3796-GENCHEM

CHEMITECH

RAW DATA

Reviewed By:jim On:9/24/2013 12:10:45 Inst ld :pH Meter

Analytical Summary Report

Analysis Method:

9045C Corrosivity

Parameter: Run Number: Corrosivity

Instrument:

LB67824 pH Meter 20.8

REVIEWED BY:

Seq	Lab ID	Sample Type	Result pH	Dil	Time	Matrix	Analytical Date
1	CAL 4	CAL	4.01	1	9:20 AM	WATER	09/23/2013
2	CAL 7	CAL	7.01	1 .	9.24	WATER	09/23/2013
3	CAL /O	CAL	10.04	1	9. 28	WATER	09/23/2013
4	ICV 7	ICV	7.01	1	9. 32	WATER	09/23/2013
5	ccv 2	CCV	3 .02	1	9,36	WATER	09/23/2013
6	E3796-01	SAM	4.18	1	9:40	SOIL	09/23/2013
7	E3796-01D	DUP	4.19	1	9:44	SOIL	09/23/2013
8	E3796-02	SAM	12.78	1	9:48	SOIL	09/23/2013
9	E3796-03	SAM	8.08	1	9.52	SOIL	09/23/2013
LO	E3796-04	SAM	8.17	1	9:56	SOIL	09/23/2013
11	E3796-05	SAM	8.86	1	10:00	SOIL	09/23/2013
12	E3796-06	SAM	6.67	1	10:04	SOIL	09/23/2013
L3	E3796-07	SAM	6.18	1	10:08	SOIL	09/23/2013
L4	E3796-08	SAM	5.04	1	10:12	SOIL	09/23/2013
L5	E3796-09	SAM	5.33	1	10:16	SOIL	09/23/2013
L6	ccv 2	CCV	a .01	1	10:20	WATER	09/23/2013
7	E3796-10	SAM	4.54	1	10:24	SOIL	09/23/2013
18	E3796-10D	DUP	4.55	1	10:28	SOIL	09/23/2013
.9	E3796-11	SAM	5.42	1	10:32	SOIL	09/23/2013
20	E3796-12	SAM	6. 23	1	10.36	SOIL	09/23/2013
1	E3796-13.	SAM	5.66	1	10:40	SOIL	09/23/2013
22	E3796-14	SAM	5.71	1	10:44	SOIL	09/23/2013
23	E3796-15	SAM	5.55	1	10.48	SOIL	09/23/2013
24	E3796-16	SAM	/2.96	1	10:52	SOIL	09/23/2013
25	ccv /2	CCV	/2.01	1	10:56 V	WATER	09/23/2013

Calibration Standards	Chemtech Log #
pH 4.00	W1812
pH 7.00	W1780
pH 10.00	W1779
(ICV) pH 7.00	W1749
(CCV) pH 2.00	W1657
(CCV) pH 12.00	WITH

True Value of ICV = $\frac{20}{100}$. Control Limits [+/- 0.1].

True Value of CCV = $\frac{2}{12}$. Control Limits [+/- 0.1].

% Recovery Percentage Difference = _____.

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LB67824

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analysis Method:

9045C Corrosivity [as pH]

Parameter: Run Number: Corrosivity

LB67824 pH Meter

Instrument:

M9045C, D- pH-09

E3796-GENCHEM

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/23/13

JM

LB67824.MDB

Approved By : Approved Date :

Worksheet #:

Vario

Lab Sample ID	Client ID		Raw Amt	Dil i	Matrix	A. Date	Prep Method	Anal Meti	•			Line 1
Parameter			PPB	Final	Conc	%Rec	. LCL	UCL	RPD	Max RPD	Units	Line 2
Corrosivity CAL Corrosivity (as	CAL	PASS	4.010) 4	W 1.010	9/23/13			_		рН	
CAL Corrosivity (as	CAL	PASS	7.010		W 7.010	9/23/13					pН	
CAL Corrosivity (as	CAL	PASS	10.040) . 1	W 10.04	9/23/13					pН	
ICV1 Corrosivity (as	ICV1	PASS	7.010)	W 7.01	9/23/13 100.0	90	110			pН	
CCV1 Corrosivity (as	CCV1	PASS	2.020		W 2.02	9/23/13 101.0	90	110 .			рН	
E3796-01 Corrosivity (as		PASS	4.180		\$ 4.180	9/23/13					pН	
E3796-01D Corrosivity (as		PASS	4.190		S 4.190	9/23/13			0.2	20	pН	
E3796-02 Corrosivity (as		PASS	12.780		S 12.78	9/23/13 9/23/13					pН	
E3796-03 Corrosivity (as		PASS	8.080	. 1 D = 8	S 8.080 S	9/23/13					pН	
E3796-04 Corrosivity (as		PASS	8.170		8.170 S	9/23/13					рĦ	
E3796-05 Corrosivity (as E3796-06	P001-DW-2006-2	PASS	8.86		8.860 S	9/23/13					pН	
E.3 /96-06 Corrosivity (as E3796-07		PASS	6.670		6.670 S	9/23/13					pН	
Corrosivity (as E3796-08		PASS	6.186		6.180 S	9/23/13					pН	
Corrosivity (as		PASS	5.04		5.040 S	9/23/13					pН	
Corrosivity (as		PASS	5.33		5.330 W	9/23/13					pН	
Corrosivity (as E3796-10		PASS	2.010	0 1	2.01 S	101.0 9/23/13	90	110			pН	
Corrosivity (as E3796-10D	P001-S-3001-1D	PASS	4.54	1	4.540 S	9/23/13					pH	
Corrosivity (as E3796-11	P001-S-3001-2	PASS	4.55	1	4.550 S	9/23/13			0.2	20	pН	
Corrosivity (as E3796-12	P001-S-3002-1	PASS	5.42	1	5.420 S	9/23/13					pН	
Corrosivity (as		PASS	6.23	0	6.230						pН	

Chemtech Consulting Group

Analytical Review Report

Date Printed :

9/23/13

Analyst: JM

Data File: LBe

LB67824.MDB

Approved By:
Approved Date:

Worksheet #:

1/02/12

Lab Sample ID	Client ID		Raw Amt	Dil	Matrix	A. Date	Prep Method		lysis thod	•		Line 1
Parameter			PPB	Fi	inal Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
Corrosivity E3796-13 Corrosivity (as	P001-S-3003-1	PASS	5.6	t 60	S 5.660	9/23/13					рН	
E3796-14 Corrosivity (as	P001-S-6001-1	PASS	5.7	1 10	S 5.710	9/23/13					pН	
E3796-15 Corrosivity (as	P001-S-6002-1	PASS	5.5	1 50	S 5.550	9/23/13					pН	
E3796-16 Corrosivity (as	P001-S-6003-1	PASS	12.9	1 60	S 12.96	9/23/13					pH .	
CCV3 Corrosivity (as	CCV3	PASS	12.0	10	W 12.01	9/23/13 100.0	90	110			pН	



Analytical Summary Report

Analysis Method:

9045C Corrosivity [as pH]

Parameter:

Corrosivity

Run Number: Instrument:

LB67824 pH Meter REVIEW:

REVIEWED BY:

Seq	Lab ID	Sample Type	Result pH	Dil	Time	Matrix	Analytical Date
1	CAL	CAL	4.01	1		WATER	9/23/13
2	CAL	CAL	7.01	1		WATER	9/23/13
3	CAL	CAL	10.04	1		WATER	9/23/13
4	ICV	ICV	7.01	1		WATER	9/23/13
5	CCV	CCV	2.02	1		WATER	9/23/13
6	E3796-01	SAM	4.18	1		SOIL	9/23/13
7	E3796-01D	DUP	4.19	1		SOIL	9/23/13
œ	E3796-02	SAM	12.78	1		SOIL	9/23/13
9	E3796-03	SAM	8.08	1		SOIL	9/23/13
10	E3796-04	SAM	8.17	1		SOIL	9/23/13
11	E3796-05	SAM	8.86	1		SOIL	9/23/13
12	E3796-06	SAM	6.67	1	 	SOIL	9/23/13
13	E3796-07	SAM	6.18	1	1	SOIL	9/23/13
14	E3796-08	SAM	5.04	1	/	SOIL	9/23/13
15	E3796-09	SAM	5.33	1		SOIL	9/23/13
16	CCV	CCV	2.01	1		WATER	9/23/13
17	E3796-10	SAM	4.54	1		SOIL	9/23/13
18	E3796-10D	DUP	4.55	1		SOIL	9/23/13
19	E3796-11	SAM	5.42	1		SOIL	9/23/13
20	E3796-12	SAM	6.23	1		SOIL	9/23/13
21	E3796-13	SAM	5.66	1		SOIL	9/23/13
22	E3796-14	SAM	5.71	1		SOIL	9/23/13
23	E3796-15	SAM	5.55	1	 	SOIL	9/23/13
24	E3796-16	SAM	12.96	1	<i>j</i>	SOIL	9/23/13
25	CCV	CCV	12.01	1	1	WATER	9/23/13

8m 9-24-13

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Analytical Summary Report

Analysis Method:

1010A Flashpoint

Parameter:

Flashpoint

Run Number: Instrument: LB67825 KOEHLER 2 m

Seq	Lab ID	Client ID	Sample Type	Temp. °F	Dii	Analytical Date
1	ICV	ICV	ICV	81.0	 	9/23/2013
2	E3795-02	IDW-WATER-1	SAM	> 2(2	1 1	9/23/2013
3	E3795-02D	IDW-WATER-1D	DUP		1 1	
4	E3796-02	P001-DW-2003-1	SAM	-11-5	1 -	9/23/2013
5	E3796-04	P001-DW-2006-1	SAM	138	<u> </u>	9/23/2013
6	E3796-05	P001-DW-2006-2		172	1	9/23/2013
7	E3796-06		SAM	145	1	9/23/2013
8	E3796-07	P001-DW-2007-1	SAM	7212	1	9/23/2013
91		P001-DW-2011-1	SAM	> 212	1	9/23/2013
<u> </u>	E3796-08	P001-DW-6035-1	SAM	> 212	1 1	9/23/2013

Start time - 12:15 Pm end time - 2:30 Pm

Page # ____ of ___

LB67825

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analysis Method:

1010A Flashpoint

Parameter:

Flashpoint

Run Number:

LB67825

Instrument:

KOEHLER

M 10104 - Flash - Point - 09

Chemtech Consulting Group

Analytical Review Report

Date Printed:

9/23/13

Approved By:

Analyst : Data File : JM LB67825.MDB Approved Date : Worksheet # : 7/24/3

Lab Sample ID	Client ID	Raw Amt	Dil Matrix	A. Date	Prep Method	Ana Met				Line 1
Parameter		PPB	Final Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
Flashpoint ICV1 Flashpoint	ICV1 PASS	81.000	W 81.00	9/23/13 99.0	90	110			o F	
E3795-02 Flashpoint	IDW-WATER-1 PASS.	0.000	1 W >212.0	9/23/13					o F	
E3795-02D Flashpoint	IDW-WATER-1D PASS	0.000	1 W >212.0	9/23/13			0	20	o F	
E3796-02 Flashpoint	P001-DW-2003-1 PASS	138.000	1 S 138	9/23/13					o F	
E3796-04 Flashpoint	P001-DW-2006-1 PASS	· 172.000	I S 172	9/23/13					o F	
E3796-05 Flashpoint	P001-DW-2006-2 PASS	. 1 145.000	I S 145	9/23/13					o F	
E3796-06 Flashpoint	P001-DW-2007-1 PASS	0.000	S >212.0	9/23/13					oF	
E3796-07 Flashpoint	P001-DW-2011-1 PASS	0.000	S >212.0	9/23/13					o F	
E3796-08 Flashpoint	P001-DW-6035-1 PASS	0.000	-	9/23/13					o F	



Analytical Summary Report

Analysis Method:

1010A Flashpoint

Parameter: Run Number: Flashpoint LB67825

Instrument:

KOEHLER

Seq	Lab ID	Client ID	Sample Type	Inst Conc.	Dil	Analytical Date
1	ICV	ICV	ICV	81.000	1	9/23/13
2	E3795-02	IDW-WATER-1	SAM	> 0.000 212	1	9/23/13
3	E3795-02D	IDW-WATER-1D	DUP	> 0.000 2/3	1	9/23/13
4	E3796-02	P001-DW-2003-1	SAM	138.000	1	9/23/13
5	E3796-04	P001-DW-2006-1	SAM	172.000	1	9/23/13
6	E3796-05	P001-DW-2006-2	SAM	145.000	1	9/23/13
7	E3796-06	P001-DW-2007-1	SAM	> 0.000 212	ı	9/23/13
8	E3796-07	P001-DW-2011-1	SAM	> 0.000 2(2	1	9/23/13
9	E3796-08	P001-DW-6035-1	SAM	> 0.000 212	1	9/23/13

Page # _____ of ____

Analytical Summary Report

Analysis Method:

1030 Ignitability

Parameter:

Ignitability

Run Number:

LB67826

Instrument:

FLAME

Analyst:

JM

REVIEW BY:

Seq	Lab ID	Sample Type	• }		Matrix	Analytical Date	
1	E3795-01	SAM	YES	(NO)	SOIL	9/23/2013	
2	E3795-01D	DUP	YES	NOV	SOIL	9/23/2013	
3	E3796-01	SAM	YES .	(NO)	SOIL	9/23/2013	
4	E3796-03	SAM	YES	NO	SOIL	9/23/2013	
5	E3796-09	SAM	YES	(NO)	SOIL	9/23/2013	
6	E3796-10	SAM	YES	(NO)	SOIL	9/23/2013	
7	E3796-11	SAM	YES	(NO)	SOIL	9/23/2013	
8	E3796-12	SAM	YES	NO	SOIL	9/23/2013	
9	E3796-13	SAM	YES	(NO	SOIL	9/23/2013	
10	E3796-14	SAM	YES	NO	SOIL	9/23/2013	
11	E3796-15	SAM	YES	(No)	SOIL	9/23/2013	
12	E3796-16	SAM	YES	(NQ)	SOIL	9/23/2013	

Sample, E 3796-12 + E 3796-15 burner but did not ignite

Start time 9:30 Au end the 11:48 Am



CHITTECH

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analysis Method:

1030 IGNITABILITY

Parameter:

Ignitability

, Run Number:

LB67826

Instrument:

FLAME

M1030 - Ignitability - OF

Chemtech Consulting Group

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/24/13

<u>JM</u>

LB67826.MDB

Approved By: Approved Date:

Worksheet #:

Lab Sampie ID	Client ID		Raw Amt	Dil	Matrix	A. Date	Prep Method	Anal Met	•			Line 1
Parameter			PPB	Fin	al Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
gnitability E3795-01 Ignitability	IDW-SOIL-1	PASS	0.000	1	S NO	9/23/13					۰C	
E3795-01D Ignitability	IDW-SOIL-1D	PASS	0.000	1	S NO	9/23/13			0	20	o C	
E3796-01 Ignitability	P001-DW-2001-	1 PASS	0.000	1	S NO	9/23/13					o C	
E3796-03 Ignitability	P001-DW-2004-	i PASS	0.000	1	S NO	9/23/13					• C	
E3796-09 Ignitability	P001-S-2001-1	PASS	0.000	1	s NO	9/23/13					٥C	
E3796-10 Ignitability	P001-S-3001-1	PASS	0.000	i)	S NO	9/23/13					o C	
E3796-11 Ignitability	P001-S-3001-2	PASS	0.000	1	s NO	9/23/13					o C	
E3796-12 Ignitability	P001-S-3002-1	PASS	0.000	1	S NO	9/23/13					о С	
E3796-13 Ignitability	P001-S-3003-1	PASS	0.000	1	S NO	9/23/13					o C	
E3796-14 Ignitability	P001-S-6001-1	PASS	0.000	1	s NO	9/23/13					o C	
E3796-15 Ignitability	P001-S-6002-1	PASS	0.000	1	. S NO	9/23/13					• C	
E3796-16 Ignitability	P001-S-6003-1	PASS	0.00.0	1	s NO	9/23/13					o C	

CHEMIECH

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analytical Summary Report

Analysis Method:

1030 IGNITABILITY

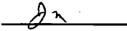
Parameter:

Ignitability

Run Number: Instrument: LB67826 FLAME

Analyst:

REVIEWED BY:



Seq	Lab ID	Sample Type	Result ° C	Time	Matrix	Analytical Date
1	E3795-01	SAM	NO	<u> </u>	SOIL	9/23/13
2	E3795-01D	DUP	· NO		SOIL	9/23/13
3	E3796-01	SAM	NO	7	SOIL	9/23/13
4	E3796-03	SAM	NO.		SOIL	9/23/13
5	E3796-09	SAM	MO	/	SOIL	9/23/13
6	E3796-10	SAM	No	. /	SOIL	9/23/13
7	E3796-11	SAM	NO	7	SOIL	9/23/13
8	E3796-12	SAM	NO		SOIL	9/23/13
9	E3796-13	SAM	NO	1	SOIL	9/23/13
10	E3796-14	SAM	NO	1	SOIL	9/23/13
11	E3796-15	SAM	No	1/	SOIL	9/23/13
12	E3796-16	SAM	NO		SOIL	9/23/13

Paghe # ____ of ____

Analytical Summary Report

Analysis Method:

9034 Reactive Sulfide

Parameter:

Reactive Sulfide

Run Number:

LB67827

Instrument:

Titrametric

ANALYST :

REVIEWED BY:

#<u></u>

Standard Type:	LCSS	Lot #:	WP28776	Concentration:	25 PPA
Titrant 1 =	Iodne	W1756	Titrant 2 =	Solium Thiosu	Ifete W1700
Normality 1 =	0.0		_ Normality 2 =	0.025	
Constant =	16000	_	starch -	WIGOS	
Pormula = (/Tit	rant 1 * Normal	ity 1) _ (Titront	,	+ Constant / ml of	Comp. 1 o

Seq	Lab ID	Sample Type	of Sample	mL Titrant 1	Normality 1	mL Titrant 2	Normality 2	Initial pH	Analytical Date
1	LB67827BLS	MB	5.00	5.00	10.025	3.00	0.025		9-23-13
2	LB67827BSS	LCS	5.00	5.00		a .34	1	/	
3	E3770-03	SAM	5.01	5.00		5.00		/	
4	E3770-03D	DUP	5.01	5.00		5.00		7	
5	E3770-03S	MS	5.01	5.00		a . 36			
6	E3770-06	SAM	5.00	5.00		5.00			
7	E3796-01	SAM	5.01	5.00		4.88			
8	E3796-02	SAM	5.00	5.00		4.96			
	E3796-03	SAM	5.02	5.00		4.82			
10	E3796-04	SAM	5.00	5.00		4.84			
11	E3796-05	SAM	5.00	500		4.82		1	
12	E3796-06	SAM	5.00	5.00		4.84			
13	E3796-07	SAM	5.00	500		4.86		1	
14	E3796-08	SAM	5.00	500		4.82			
15	E3796-09	SAM	5.02	500		4.80			
16	E3796-10	SAM	501	5-00		4.82			
17	E3796-11	SAM	501	5 co		4-84			1
18	E3796-12	SAM	501	5.00		4.84	1 1	1	
19	E3796-13	SAM	502	500		4.86			
20	E3796-14	SAM	2.07	500		4.83			-
_	E3796-15	SAM	5.02	500		4.80	 	/	
22	E3796-16	SAM	5.02	<u>5</u> .ω	V	4.84	V		

In 9-23-13

Start time-1:10 Pm end time-2:15 Pm

Page # ____ of ___



CEMTECH

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analysis Method:

9034 Reactive Sulfide

Parameter:

Reactive Sulfide

Run Number:

LB67827

Instrument:

Titrimetric

M9034-SM4500 SF-SURILE-09

E3796-GENCHEM

Chemtech Consulting Group

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/24/13 JM

LB67827.MDB

Approved By : Approved Date :

Worksheet #:

Msh(12

Lab Sample ID	Client ID		Raw Amt	Dil	Matrix	A. Date	Prep Method	Anal Meth				Line 1
Parameter		·	PPB	Fi	al Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
Reactive Sulfide LB67827BLS Reactive Sulfide	LB67827BLS	PASS	0.00	0	\$ 0.00	9/23/13		+/-10.0000	.		mg/Kg	
LB67827BSS Reactive Sulfide	LB67827BSS	PASS	212.80	0	S 213.00	9/23/13 85.0	80.00	120.00			mg/Kg	
E3770-03 Reactive Sulfide	CARSON-50	PASS	0.00	1 10	\$ 0.000	9/23/13					mg/Kg	
E3770-03D Reactive Sulfide	CARSON-50D	PASS	0.00	1	\$ 0.00	9/23/13			0	20	mg/Kg	
E3770-03S Reactive Sulfide	CARSON-50S	PASS	210.77	1 '8	S 211.0	9/23/13 84.0	75	125			.mg/Kg	
E3770-06 Reactive Sulfide	3033	PASS	0.00	1 00	S 0.000	9/23/13					mg/Kg	
E3796-01 Reactive Sulfide	P001-DW-2001	-1 PASS	9.58	1 31	S 9.580	9/23/13					mg/Kg	
E3796-02 Reactive Sulfide	P001-DW-2003	-1 PASS	3.20	1	\$ 3.200	9/23/13					mg/Kg	
E3796-03 Reactive Sulfide	P001-DW-2004	-1 PASS	14.34	1 3	\$ 14.00	9/23/13					mg/Kg	
E3796-04 Reactive Sulfide	P001-DW-2006	-1 PASS	12.80	1	S 13.00	9/23/13					mg/Kg	
E3796-05 Reactive Sulfide	P001-DW-2006	-2 PASS	14.40	1	S 14.00	9/23/13					mg/Kg	
E3796-06 Reactive Sulfide	P001-DW-2007	-1 PASS	12.80	1	\$ 13.00	9/23/13					mg/Kg	
E3796-07 Reactive Sulfide	P001-DW-2011	-1 PASS	11.20	1	S 11.00	9/23/13					mg/Kg	
E3796-08 Reactive Sulfide	P001-DW-6035	-1 PASS	.14.40	1	S 14.00	9/23/13					mg/Kg	
E3796-09 Reactive Sulfide	P001-S-2001-1	PASS	15.93	1 ⁻ 36	s 16.00	9/23/13					mg/Kg	
E3796-10 Reactive Sulfide	P001-S-3001-1	PASS	14.37	1 71	S 14.00	9/23/13					mg/Kg	
E3796-11 Reactive Sulfide	P001-S-3001-2	PASS	12.77	1	\$ 13.00	9/23/13					mg/Kg	
E3796-12 Reactive Sulfide	P001-S-3002-1	PASS	12.77	1	\$ 13.00	9/23/13					mg/Kg	
E3796-13 Reactive Sulfide	P001-S-3003-1	PASS	11.15	1	s	9/23/13						
E3796-14 Reactive Sulfide	P001-S-6001-1	PASS	14.13	1	11.00 S 14.00	9/23/13					mg/Kg mg/Kg	

Chemtech Consulting Group

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/24/13

LB67827.MDB

<u>JM</u>

Approved By:

Approved Date: Worksheet #:

Lab Sample ID	Client ID	Raw Amt	Dil	Matrix	A. Date	Prep Method		llysis thod			Line 1
Parameter		PPB	F	inal Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
Reactive Sulfide E3796-15 Reactive Sulfide	P001-S-6002-1	SS 15.	1 .936	S 16.00	9/23/13					mg/Kg	
E3796-16 Reactive Sulfide	P001-S-6003-1	SS 12.	1 .749	\$ 13.00	9/23/13		•			mg/Kg	

Analytical Summary Report

Analysis Method:

9034 Reactive Sulfide

Parameter:

Reactive Sulfide

Run Number: Instrument:

Titrimetric

LB67827

ANALYST RUN:

REVIEWED BY:

Standard Type:

LCSS / LCSD

Lot #:

WP28776

Concentration:

25PPM

Titrant 1 =

Iodine Solutions W1756

Titrant 2 =

Sodium Thiosulphate

W1700

Normality 1 =

0.0250N

Normality 2 =

0.0250N

Constant =

16000

W1806

Formula = ((Titrant 1 * Normality 1) - (Titrant 2 * Normality 2)) * Constant / ml of Sample

Seq	Lab ID	Sample Type	of Sample	んし Titrant 1	Normality 1	N ← Titrant 2	Normality 2	Result	Analytical Date
1	LB67827BLS	MB	5.00	5.00	0.025	5.00	0.025	0.000	9/23/13
_2	LB67827BSS	LCS	5.00	5.00	0.025	2.34	0.025	212.800	. 9/23/13
3	E3770-03	SAM	5.01	5.00	0.025	5.00	0.025	0.000	9/23/13
4	E3770-03D	DUP	5.01	5.00	0.025	5.00	0.025	0.000	9/23/13
5	E3770-03S	MS	5.01	5.00	0.025	2.36	0.025	210.778	9/23/13
6	E3770-06	SAM	5.00	5.00	0.025	5.00	0.025	0.000	9/23/13
7	E3796-01	SAM	5.01	5.00	0.025	4.88	0.025	9.581	9/23/13
8	E3796-02	SAM	5.00	5.00	0.025	4.96	0.025	3.200	9/23/13
9	E3796-03	SAM	5.02	5.00	0.025	4.82	0.025	14.343	9/23/13
10	E3796-04	SAM	5.00	5.00	0.025	4.84	0.025	12.800	9/23/13
11	E3796-05	SAM	5.00	5.00	0.025	4.82	0.025	14.400	9/23/13
12	E3796-06	SAM	5.00	5.00	0.025	4.84	0.025	12.800	9/23/13
13	E3796-07	SAM	5.00	5.00	0.025	4.86	0.025	11.200	9/23/13
14	E3796-08	SAM	5.00	5.00	0.025	4.82	0.025	14.400	9/23/13
15	E3796-09	SAM	5.02	5.00	0.025	4.80	0.025	15.936	9/23/13
16	E3796-10	SAM	5.01	5.00	0.025	4.82	0.025	14.371	9/23/13
17	E3796-11	SAM	5.01	5.00	0.025	4.84	0.025	12.774	9/23/13
18	E3796-12	SAM	5.01	5.00	0.025	4.84	0.025	12.774	9/23/13
19	E3796-13	SAM	5.02	5.00	0.025	4.86	0.025	11.155	9/23/13
20	E3796-14	SAM	5.02	5.00	0.025	4.82	0.025	14.343	9/23/13
21	E3796-15	SAM	5.02	5.00	0.025	4.80	0.025	15.936	9/23/13
22	E3796-16	SAM	5.02	5.00	0.025	4.84	0.025	12.749	9/23/13

Page # ____ of ____

Test results Aquakem 7.2AQ1 Page:

CHEMTECH

284 Sheffield Street, Mountainside, NJ 07092 Reviewed by :

9/24/2013 10:46

Reactive				
Test: Total CN	lyil			
Sample Id	Result	Dil. 1 +	Response	Errors
ICVI	94.652	0.0	0.085	
ICB1	-0.045	0.0	0.004	
CCV1	240.656	0.0	0.210	
CCB1	-0.286	0.0	0.004	
LB67833BLS	-0.079	0.0	0.004	
LB67833BSS	186.249	0.0	0.164	
E3770-03	-0.261	0.0	0.004	
E3770-03D	-0.385	0.0	0.004	
E3770-03S	22.868	0.0	0.024	
E3770-06	-0.293	0.0	0.004	
E3796-01	-0.497	0.0	0.004	
E3796-02	0.966	0.0	0.005	
E3796-03	-0.252	0.0	0.004	
CCV2	240.992	0.0	0.210	
CCB2	-0.096	0.0	0.004	
E3796-05	-0.229	0.0	0.004	
E3796-06	-0.813	0.0	0.003	
E3796-07	-0.452	0.0	0.004	
E3796-08	1.494	0.0	0.005	
E3796-09	-0.898	0.0	0.003	
E3796-10	0.349	0.0	0.004	
E3796-11	-0.582	0.0	0.004	
E3796-12	-0.761	0.0	0.004	
E3796-13	-0.380	0.0	0.004	
E3796-14	-0.131	0.0	0.004	
CCV3	242.815	0.0	0.212	
CCB3	-0.172	0.0	0.004	
E3796-15	-0.380	0.0	0.004	
E3796-16	0.305	0.0	0.004	
E3796-04	-0.167	0.0	0.004	
CCV4	260.299	0.0	0.227	
CCB4	-0.100	0.0	0.004	
N	32			
Mean	40.137			
SD	87.1287			
CV\$	217.08			



Aquakem v. 7.2AQ1

Results from time period:

Tue Sep 24 09:15:26 2013

Tue Sep 24 10:42:59 2013

Tue Sep 24 10:42:						
Sample Id	Sam/Ctr/c	/Test short name	Test type	Result		Result date and time
0.0PPBCN	Α	Reactive CN	Р	-0.3273		9/24/2013 9:15:26
5.0PPBCN	Α	Reactive CN	P	4.4927	μg/l	9/24/2013 9:15:27
10PPBCN	, A	Reactive CN	Р	10.025	μg/l	9/24/2013 9:15:28
50PPBCN	Α	Reactive CN	P	50.5725	μg/l	9/24/2013 9:15:29
100PPBCN	Α.	Reactive CN	Ρ.	99.2042	μ g/ l	9/24/2013 9:15:30
250PPBCN	Α	Reactive CN	Р	251.853	μg/l	9/24/2013 9:15:31
500PPBCN	Α	Reactive CN	P	499.18	μg/l	9/24/2013 9:15:32
LOW	S	Reactive CN	P	9.602	μg/i	9/24/2013 9:32:43
HIGH	S	Reactive CN	P	518.1882	μg/l	9/24/2013 9:32:44
ICV1	S .	Reactive CN	P	94.6519	μg/l	9/24/2013 10:06:29
ICB1	S .	Reactive CN	P	-0.0453	μg/l	9/24/2013 10:06:30
CCV1	S	Reactive CN	P	240.6562	μg/l	9/24/2013 10:06:31
CCB1	S ·	Reactive CN	Р	-0.2858	μg/l	9/24/2013 10:06:32
LB67833BLS	S	Reactive CN	P	-0.0787	μg/l	9/24/2013 10:06:33
LB67833BSS	S	Reactive CN	P	186.2495	μg/l	9/24/2013 10:06:34
E3770-03	S	Reactive CN	P	-0.2614	μg/l	9/24/2013 10:06:35
E3770-03D	S	Reactive CN	P	-0.3851	μg/l	9/24/2013 10:06:36
E3770-03S	S	Reactive CN	P	22.8678	μg/l	9/24/2013 10:06:37
E3770-06	S .	Reactive CN	P	-0.2928	μg/l	9/24/2013 10:06:38
E3796-01	S	Reactive CN	P	-0.4969	μg/l	9/24/2013 10:06:39
E3796-02	S	Reactive CN	P	0.9659	μg/l	9/24/2013 10:14:01
E3796-03	S	Reactive CN	P	-0.2517	μg/l	9/24/2013 10:14:02
CCV2	S	Reactive CN	P	240.9924	μg/l	9/24/2013 10:14:04
CCB2	S	Reactive CN	P	-0.0961	. μg/l	9/24/2013 10:14:05
E3796-05	S	Reactive CN	Ρ .	-0.229	μg/l	9/24/2013 10:14:06
E3796-06	S	Reactive CN	P	-0.8132	μg/l	9/24/2013 10:14:07
E3796-07	S	Reactive CN	P	-0.4523	μg/l	9/24/2013 10:14:08
E3796-08	S	Reactive CN	P	1.4937	μg/l	9/24/2013 10:14:09
E3796-09	S	Reactive CN	P	-0.8975	μg/l	9/24/2013 10:14:10
E3796-10	S	Reactive CN	P	0.3494	μg/l	9/24/2013 10:14:11
E3796-11	. S	Reactive CN	P	-0.5821	. μg/l	9/24/2013 10:21:08
E3796-12	S	Reactive CN	P	-0.7609	μg/l	9/24/2013 10:21:09
E3796-13	S	Reactive CN	P	-0.3802	½ μg/l	9/24/2013 10:21:10
E3796-14	S	Reactive CN	P	-0.1309	µg/l	9/24/2013 10:21:11
CCV3	S	Reactive CN	P	242.8155	i μg/l	9/24/2013 10:21:12
CCB3	S	Reactive CN	P	-0.172	! μg/l	9/24/2013 10:21:13
E3796-15	\$	Reactive CN	P	-0.3801	. μg/l	9/24/2013 10:21:14
E3796-16	S	Reactive CN	Р	0.3046	i μg/l	9/24/2013 10:21:15
E3796-04	S	Reactive CN	Р	-0.1668	β μg/l	9/24/2013 10:42:57
CCV4	S	Reactive CN	P	260.2987	′ μg/l	9/24/2013 10:42:58
CCB4	. S	Reactive CN	P	-0.1002	! μg/l	9/24/2013 10:42:59

Calibration results

Aquakem 7.2AQ1

Inst ld :Konelab 20 LB :LB67833

CHEMTECH

284 Sheffield Street, Mountainside, NJ 07092 Reviewed by : HY

9/24/2013 9:17

Coeff. of det.

Test

Accepted

Factor

Errors

Bias

Total CN

1168

0.004

0.999974

9/24/2013 9:17

500

0.500 Resp. (A) 0.000

Conc. $(\mu g/1)$

	Calibrator	Response	Calc. con.	Conc.	Errors
1 2 3 4 5 6	0.0PPBCN 5.0PPBCN 10PPBCN 50PPBCN 100PPBCN 250PPBCN 500PPBCN	0.004 0.008 0.013 0.047 0.089 0.220 0.432	-0.3273 4.4927 10.0250 50.5725 99.2042 251.8530 499.1800	0.0000 5.0000 10.0000 50.0000 100.0000 250.0000	

0

Test results

Aquakem 7.2AQ1

Page:

Inst Id :Konelab 20 LB :LB67833

CHEMTECH

9/24/2013 9:33

Test: Total CN

Sample Id	Ng la Result	Dil. 1 +	Response	Errors
LOW HIGH	9.602 518.188	0.0	0.012 0.448	Test limit high

N		. 2
Mean		263.895
SD	•	359.6247
CV\$		136.28

E3796-GENCHEM

Chemtech Consulting Group

Analytical Review Report

Date Printed :

9/25/13

Approved By:

Analyst : Data File : HM LB67833.MDB Approved Date : Worksheet # :

9/29/2

Lab Sample ID	Client ID		Dil Raw Amt PPB	Matrix	A. Date %Rec	Method LCL	Meth UCL	od RPD	Max RPD	Units	Line Line
Parameter			,	rinai Cone	70Net					0.00	
eactive Cyanide				w	9/24/13	•					
0.0PPBCN Reactive Cyanide	0.0PPBCN	PASS	-0.327	-0.000						mg/L	•
5.0PPBCN	5.0PPBCN			w	9/24/13						
Reactive Cyanide		PASS	4.493	0.004					•	mg/L	
10PPBCN	10PPBCN			\mathbf{w}	9/24/13						
Reactive Cyanide		PASS	10.025	0.010						mg/L	
50PPBCN	50PPBCN			w	9/24/13						
Reactive Cyanide		PASS	5.057	0.005						mg/L	
100PPBCN	100PPBCN			\mathbf{w}	9/24/13	•					
Reactive Cyanide	* =	PASS	99.204	0.099						mg/L	
250PPBCN	250PPBCN			w	9/24/13				•		
Reactive Cyanide		PASS	251.853	0.252						mg/L	
500PPBCN	500PPBCN			w	9/24/13					_	
Reactive Cyanide		PASS	499.180	0.49 9						mg/L	
LOW	LOW			\mathbf{w}	9/24/13					_	
Reactive Cyanide		PASS	9.602	0.010						mg/L	
HIGH	HIGH			w	9/24/13					-	
Reactive Cyanide		PASS	518.188	0.518						mg/L	
ICV1	ICV1			W	9/24/13					7	
Reactive Cyanide	•	PASS	94.652	0.09	90.0	85	115			mg/L	
ICB1	ICB1			w	9/24/13						
Reactive Cyanide		PASS	-0.045	0.000			+/-0.0050			mg/L	
CCV1	CCV1	D 4 CC	. 240.656	W	9/24/13 96.0	90	110			mg/L	
Reactive Cyanide		PASS	240.656	0.24		50	110			mg/L	
CCB1	CCB1	DACC	-0.286	W 0.000	9/24/13		+/-0.0050			mg/L	
Reactive Cyanide		PASS	-0.260				17-0.0030			mgz	
LB67833BLS	LB67833BLS	PASS	-0.079	-0.001	9/24/13		+/-0.0500			mg/Kg	
Reactive Cyanide		rass	-0.079		00403		0.0500				
LB67833BSS Reactive Cyanide	LB67833BSS	PASS	186.249	S 1.86	9/24/13 93.0	85.00	115.00			mg/Kg	
	G . D. G. V. 50	IASS	100.245	s	9/24/13	00.20					
E3770-03 Reactive Cyanide	CARSON-50	PASS	-0.261	-0.003	9124113					mg/Kg	
•	CARCON FOR	11100	1		9/24/13					0 0	
E3770-03D Reactive Cyanide	CARSON-50D	PASS	-0.385	-0.004	J124113			0	20	mg/Kg	
	CARCON FOR		1		9/24/13						
E3770-03S Reactive Cyanide	CARSON-50S	PASS	22.868	0.23	58.0	48	158			mg/Kg	
-	2022		1		9/24/13	•					
E3770-06 Reactive Cyanide	3033	PASS	-0.293	-0.003						mg/Kg	
	D001 DW 2001		1		9/24/13						
E3796-01 Reactive Cyanide	P001-DW-2001	-I PASS	-0.497	-0.005	312 4 (13					mg/Kg	

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/25/13

HM LB67833.MDB Approved By:

Approved Date:

Worksheet #:



			35.4.3	A D-4-	Prep	Anal Met		٠		Line 1
Lab Sample ID Parameter	Client ID	Dil Raw Amt PPB F	Matrix inal Conc	A. Date %Rec	Method		nou ŘPD	Max RPD	Units	Line 1
Reactive Cyanide E3796-02	P001-DW-2003-1	1	s	9/24/13	. •					
Reactive Cyanide	PASS	0.966	0.010						mg/Kg	
E3796-03	P001-DW-2004-1	1.	s ·	9/24/13	•					
Reactive Cyanide	PASS	-0.252	-0.003						mg/Kg	
CCV2	CCV2		w	9/24/13					_	
Reactive Cyanide	PASŚ	240.992	0.24	96.0	90	110			mg/L	
CCB2	CCB2		w	9/24/13	•					
Reactive Cyanide	PASS	-0.096	0.000		٠,	+/-0.0050			mg/L	•
E3796-05	P001-DW-2006-2	1	S 0.002	9/24/13					mg/Kg	•
Reactive Cyanide	PASS	-0.229	-0.002						шалк	
E3796-06	P001-DW-2007-1	.0 813	S 0.008	9/24/13					mg/Kg	
Reactive Cyanide	PASS	-0.813		0.0422						
E3796-07	P001-DW-2011-1 PASS	-0.452	S -0.005	9/24/13	•				mg/Kg	
Reactive Cyanide				0.004.002						
E3796-08 Reactive Cyanide	P001-DW-6035-1 PASS	1 1.494	S 0.015	9/24/13					mg/Kg	
		1	S	9/24/13					_55	
E3796-09 Reactive Cyanide	P001-S-2001-1 PASS	-0.897	-0.009)124/13					mg/Kg	
E 3796-1 0	P001-S-3001-1	1	s	9/24/13						
Reactive Cyanide	PASS	0.349	0.003	7.20.10					mg/Kg	
E3796-11	P001-S-3001-2	1	s	9/24/13						
Reactive Cyanide	PASS	-0.582	-0.006					•	mg/Kg	
E3796-12	P001-S-3002-1	1	s	9/24/13			-			
Reactive Cyanide	PASS	-0.761	-0.008	•					mg/Kg	
E3796-13	P001-S-3003-1	1	s	9/24/13						
Reactive Cyanide	PASS	-0.380	-0.004						mg/Kg	
E3796-14	P001-S-6001-1	1	s	9/24/13		•				
Reactive Cyanide	PASS	-0.131	-0.001						mg/Kg	
CCV3	CCV3		w	9/24/13						
Reactive Cyanide	PASS	242.816	0.24	96.0	90	110			mg/L	
CCB3	CCB3		W	9/24/13					_	
Reactive Cyanide	PASS	-0.172	0.000			+/-0.0050			mg/L	
E3796-15	P001-S-6002-1	1	S	9/24/13						
Reactive Cyanide	PASS	-0.380	-0.004					•	mg/Kg	
E3796-16	P001-S-6003-1	1 225	S .	9/24/13						
Reactive Cyanide	PASS	0.305	0.003						mg/Kg	
E3796-04	P001-DW-2006-1	0.167	S .0.002	9/24/13					m ≈/V ~	
Reactive Cyanide	PASS	-0.167	-0.002						mg/Kg	
CCV4	CCV4	260.200	. W	9/24/13	00	110				
Reactive Cyanide	PASS	260.299	0.26	104.0	90	110	•	•	mg/L	

Chemtech Consulting Group

Analytical Review Report

Date Printed:

Analyst:

Data File:

9/25/13 HM

LB67833.MDB

Approved By:

Approved Date : Worksheet # : Ale All

Lab Sample ID	Client ID	· -	Raw Amt	Dil	Matrix	A. Date	Prep Method	Ana Met	₹.			Line 1
Parameter			PPB	Fin	al Conc	%Rec	LCL	UCL	RPD	Max RPD	Units	Line 2
Reactive Cyanide CCB4 Reactive Cyanide	ССВ4	PASS	-0.10	0	W 0.000	9/24/13		+/-0.0050			mg/L	

CHEMITECH	Þ
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Preparation Log

PR72404

0000	Batch#	PB72404
SOP: M 9030B-5/(File-07	Preparation Date:	9-23-13
TEMP Set1: Set2: S	Preparation Time: Time In: 10: 50 A Time: Out 12: 20	
Wt1: 1.00 y Wt2: 10.00 y Wt3:	Reviewed By: Preparation Signature	

Standared Name	MLS USED	STD REF. # FROM LOG	
PBW/PBS)	50 mL	W1152	
LCSS	1,25 mL	WP27067	
Matrix Spike	1.25mL	WP27067	
			<u> </u>

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268
		_

Analysis Group Digestion Group	Date / Time	Received By	Relinquished By	Location
		Analysis Group	Digestion Group	
				<u> </u>
MENTS	urare.			<u></u>
				Jx 9-23-1

CHENTECH Preparation Log

PrepBatch ID:

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMITECH

Preparation Log

Prep	Ra	tch	TD	
rrep	Da	ш	ıv	ē

Lab Sample ID	Client Sample ID	Matrix	Weight/G)	PH	Sulfide	Oxidizing	Comments	Pre
E3770-03	CARSON-50	SOIL	5-01	NA	NA	MA		
E3770-03DUP	CARSON-50DUP		5.01			1		-
E3770-03MS	CARSON-50MS		5.01				TV=25 PPA	
E3770-06	3033		5.00		1			
E3796-01	P001-DW-2001-1		5.01					
E3796-02	P001-DW-2003-1		5.00		T			
E3796-03	P001-DW-2004-1	1	5,02	l i I				
E3796-04	P001-DW-2006-1		3.00	i i				
E3796-05	P001-DW-2006-2		5.00					
E3796-06	P001-DW-2007-1		5.00		i			
E3796-07	P001-DW-2011-1		5.00					
E3796-08	P001-DW-6035-1		500			 		
E3796-09	P001-S-2001-1		502					
E3796-10	P001-S-3001-1		3.01					
E3796-11	P001-S-3001-2		5.01		1			
E3796-12	P001-S-3002-1		5.01		T			
E3796-13	P001-S-3003-1		5:03					
E3796-14	P001-S-6001-1		502					
E3796-15	P001-S-6002-1		5.02		1			
E3796-16	P001-S-6003-1		5.03				· i	
PB72404BL	PB72404BL		5.00					
PB72404BS	PB72404BS		5-03	V	$\overline{}$			

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

SOP : M 1035 B - Sulfile - 07 Preparation Date: 09/23/2013 TEMP Set1:	0.100	Batch# PB72404
TEMP Set1: Set2: Time In: 10:50 An Balance Check(g):	SOP: M 9030B - Sulfile - 07	Preparation Date: 09/23/2013
Wt1: (.00 g Wt2: (0.00 g Wt3: Reviewed By:		
	Wt1: 1.00 wt2: 10.00 wt3:	Reviewed By:

Standared Name	MLS USED	STD REF. # FROM LOG	
PBW/PBS')	50 mL	W1152	
LCSS	1,25 mL	WP27067	
Matrix Spike	1.25mL	WP27067	

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	

COMMENTS	
	Dn 9-23-13

CHETTECH Preparation Log

PrepBatch ID:

Lab Sample ID	Client Sample ID	Matrix	Weight/5	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3770-03	CARSON-50	SOIL	5.01	NA	N/A	N/A		
E3770-03DUP	CARSON-50DUP	SOIL	5.01	NA	N/A	N/A		
E3770-03MS	CARSON-50MS	SOIL	5.01	NA	N/A	N/A	TV=25 PPA	

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

CHITECH Preparation Log

PrepBatch ID:

PB72404

Lab Sample ID	Client Sample ID	Matrix	Weight/9	РН	Sulfide	Oxidizing	Comments	Prep Pos
E3770-06	3033	SOIL	5.00	NA	N/A	N/A		
E3796-01	P001-DW-2001-1	SOIL	5.01	NA	N/A	N/A		
E3796-02	P001-DW-2003-1	SOIL	5.00	NA	N/A	N/A		
E3796-03	P001-DW-2004-1	SOIL	5.02	NA	N/A	N/A		
E3796-04	P001-DW-2006-1	SOIL	5.00	NA	N/A	N/A		
E3796-05	P001-DW-2006-2	SOIL	5.00	NA	N/A	N/A		
E3796-06	P001-DW-2007-1	SOIL	5.00	NA -	N/A	N/A		
E3796-07	P001-DW-2011-1	SOIL	5.00	NA	N/A	N/A		1 .
E3796-08	P001-DW-6035-1	SOIL	5.00	NA	N/A	N/A		
E3796-09	P001-S-2001-1	SOIL	5.02	NA	N/A	N/A		
E3796-10	P001-S-3001-1	SOIL	5.01	NA	N/A	N/A		
E3796-11	P001-S-3001-2	SOIL	5.01	NA	N/A	N/A		
E3796-12	P001-S-3002-1	SOIL	5.01	NA	N/A	N/A		
E3796-13	P001-S-3003-1	SOIL	5.02	NA	N/A	N/A		
E3796-14	P001-S-6001-1	SOIL	5.02	NA	N/A	N/A		
E3796-15	P001-S-6002-1	SOIL	5.02	NA	N/A	N/A		
E3796-16	P001-S-6003-1	SOIL	5.02	NA	N/A	N/A		
PB72404BL	PB72404BL	SOIL	5.00	NA	N/A	N/A		
PB72404BS	PB72404BS	SOIL	5.00	NA	N/A	N/A		

					1 1) / / 4(),)			
SOP: M GOLOC-TOLL Amon ble + Realist Cyarde - 13 TEMP Set1: Set2:				Prepa Time Time Revie	n# pration Date: pration Time: In: /2.'5C Out 2:2 ewed By: # pration Signature:	0 Pn		
Standared Name	MLS	JSED		STD	REF. # FROM LOG	<u></u>		
PBW/PBS	50 mi	L		W115				
ras	2.0 m	n L		WP26	017	·		
Matrix Spike	0.4 m	ıL _		WP27	336			
7						·		
Chemical Used		ML/Sampi	e Used		Lot	Number		
0.25N NaOH		50 mL			WP28340			
50% v/v H2SO4		5.0 mL		_	WP25493			
51% w/v MgCL2		2.0 mL		İ	WP25494			
Sand		5.00 g			W1268			
	····							
Date / Time	Received By		R	elinquis	shed By	Location		
9-23-13 2:45PM	HM			An		WCREFAZ		
	Analysis Gro	up	Digë	stion G	roup			
COMMENTS								
,								

CHEMIECH

Preparation Loc

PrepBatch ID:

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
	<u> </u>							

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMIECH Preparation Log

PrepBatch ID:

Lab Sample ID	Client Sample ID	Matrix	Weight/cy	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3770-03	CARSON-50	SOIL	5.00	NA	MA	WA		
E3770-03DUP	CARSON-50DUP		5.00		1	<u>I</u>		
E3770-03MS	CARSON-50MS		5.00				TV=40 PPB	
E3770-06	3033		5.01		l			
E3796-01	P001-DW-2001-1		5.01					
E3796-02	P001-DW-2003-1	1 7	5.00					
E3796-03	P001-DW-2004-1		202	1				
E3796-04	P001-DW-2006-1		5.00	I				
E3796-05	P001-DW-2006-2	1	5.00					·
E3796-06	P001-DW-2007-1	1	5.∞					
E3796-07	P001-DW-2011-1		5.00			l l		
E3796-08	P001-DW-6035-1		500			1		
E3796-09	P001-S-2001-1		502					
E3796-10	P001-S-3001-1		5.01			T.		
E3796-11	P001-S-3001-2		5.01					
E3796-12	P001-S-3002-1		5.01					
E3796-13	P001-S-3003-1		5.02					
E3796-14	P001-S-6001-1		5.02					
E3796-15	P001-S-6002-1		<i>5.</i> 02					
E3796-16	P001-S-6003-1		5.00					
PB72405BL	PB72405BL	T i	5.00					
PB72405BS	PB72405BS	V	5.00	V	7/		*	

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

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	Batch# PB72405
SOP: M 9010C - Total, Americable + Recotive Cyamile	Preparation Date: 09/23/2013
TEMP Set1: Set2:	Preparation Time: 11:56 A
	Time In: 12:50 Pm
Balance Check(g): Metal, PJ 400	Time: Out 2: 20 Pm
Wt1: 1.00g Wt2: 10.00g Wt3: 1.00g 50 nc Final Vol: 50 nc	S
1,005 50 10,000	Reviewed By:
rinai voi: Joke	Preparation Signature:

Standared Name	MLS USED	STD REF. # FROM LOG	
PBW(/PBS)	50 mL	W1152	
LCSS	2.0 mL	WP26017	
Matrix Spike	0.4 mL	WP27336	

Chemical Used	ML/Sample Used	Lot Number
0.25N NaOH	50 mL	WP28340
50% v/v H2SO4	5.0 mL	WP25493
51% w/v MgCL2	2.0 mL	WP25494
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
9-23-13 2145PN	HM	An	WCREF +2
,	Analysis Group	Digestion Group	`
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COMMENTS	 	
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CHETTECH Preparation Log

PrepBatch ID:

PB72405

Lab Sample ID	Client Sample ID	Matrix	Weight/g	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3770-03	CARSON-50	SOIL	5.00	NA .	N/A ·	N/A		
E3770-03DUP	CARSON-50DUP	SOIL	5.00	NA	N/A	N/A		
E3770-03MS	CARSON-50MS	SOIL	5.00	NA .	N/A	N/A	TV = 43 PPB	

^{*} BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMITECH Preparation Log

PrepBatch ID:

PB72405

Lab Sample ID	Client Sample ID	Matrix	Weight/G	РН	Sulfide	Oxidizing	Comments	Prep Pos
E3770-06	3033	SOIL	5.01	NA	N/A	N/A		
E3796-01	P001-DW-2001-1	SOIL	5.01	NA	N/A	N/A		
E3796-02	P001-DW-2003-1	SOIL	5.00	ŅA	N/A	N/A		
E3796-03	P001-DW-2004-1	SOIL	5.02	NA	N/A	N/A		
E3796-04	P001-DW-2006-1	SOIL	5.00	NA	N/A	N/A		
E3796-05	P001-DW-2006-2	SOIL	5.00	NA	N/A	N/A		
E3796-06	P001-DW-2007-1	SOIL	5.00	NA	N/A	N/A		
E3796-07	P001-DW-2011-1	SOIL	5.00	NA	N/A	N/A		
E3796-08	P001-DW-6035-1	SOIL	5.00	NA	N/A	N/A		
E3796-09	P001-S-2001-1	SOIL	5.02	NA	N/A	N/A		
E3796-10	P001-S-3001-1	SOIL	5.01	NA	N/A	N/A		
E3796-11	P001-S-3001-2	SOIL	5.01	NA	N/A	N/A		
E3796-12	P001-S-3002-1	SOIL	5.01	NA	N/A	N/A		
E3796-13	P001-S-3003-1	SOIL	5.02	NA	N/A	N/A		
E3796-14	P001-S-6001-1	SOIL	5.02	NA	N/A	N/A		
E3796-15	P001-S-6002-1	SOIL	5.02	NA	N/A	N/A		
E3796-16	P001-S-6003-1	SOIL	5.02	NA	N/A	N/A		
P872405BL	PB72405BL	SOIL	5.00	NA	N/A	N/A		
PB72405BS	PB72405BS	SOIL	5.00	NA	N/A	N/A		



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: PH METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB67824

Review By	jim	Review On	9/24/2013 12:10:45 PM	
STD. NAME		STD REF.#		
ICAL Standard		W1812,W1780,W1779		
ICV Standard		W1749		
CCV Standard		W1657,W1748		
ICSA Standard				
CRI Standard				
Chk Standard				
				_

Sr#	Sampleld	ClientID	QcType	Date	Comment	Status
1	CAL	CAL	CAL	09/23/13 09:20		ок
2	CAL	CAL	CAL	09/23/13 09:24		ок
3	CAL	CAL	CAL	09/23/13 09:28		ок
4	ICV1	ICV1	ICV	09/23/13 09:32		ок
5	CCV1	CCV1	CCV	09/23/13 09:36		ок
6	E3796-01	P001-DW-2001-1	SAM	09/23/13 09:40		ок
7	E3796-01D	P001-DW-2001-1D	DUP	09/23/13 09:44		ок
8	E3796-02	P001-DW-2003-1	SAM	09/23/13 09:48		ок
9	E3796-03	P001-DW-2004-1	SAM	09/23/13 09:52		ок
10	E3796-04	P001-DW-2006-1	SAM	09/23/13 09:56		ок
11	E3796-05	P001-DW-2006-2	SAM	09/23/13 10:00		ок
12	E3796-06	P001-DW-2007-1	SAM	09/23/13 10:04		ок
13	E3796-07	P001-DW-2011-1	SAM	09/23/13 10:08		ок
14	E3796-08	P001-DW-6035-1	SAM	09/23/13 10:12		ок
15	E3796-09	P001-S-2001-1	SAM	09/23/13 10:16		ок
16	CCV2	CCV2	ccv	09/23/13 10:20		ок
17	E3796-10	P001-S-3001-1	SAM	09/23/13 10:24		ок
18	E3796-10D	P001-S-3001-1D	DUP	09/23/13 10:28		ок
19	E3796-11	P001-S-3001-2	SAM	09/23/13 10:32		ок
20	E3796-12	P001-S-3002-1	SAM	09/23/13 10:36		ок
21	E3796-13	P001-S-3003-1	SAM	09/23/13 10:40		ок
					1	1



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: PH METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB67824

Revi	Review By jim		w On	9/24/2013 12:10:45 PM	
STD	. NAME	STD REF.#			
CAL S	Standard	W1812,W1780,W1779			
	Standard	W1749 W1657,W1748			
	Standard Standard	VV 1037, VV 1746			
CRI S	tandard				
Chk S	tenderd				
	25110514				
	E3796-14	P001-S-6001-1	SAM	09/23/13 10:44	ок
22 23		P001-S-6001-1 P001-S-6002-1	SAM	09/23/13 10:44 09/23/13 10:48	ОК
22	E3796-14		 		



E3796-08

P001-DW-6035-1

SAM

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67825

Revi	ew By jim Review On			v On	9/24/2013 12	2:11:41 PM	
STD.	. NAME	ST	D REF.#		,	·	
ICV S CCV S ICSA S CRI St	Standard tandard Standard Standard andard tandard	W1:	585				
Sr#	Sampleld		ClientID	QcType	Date	Comment	Status
1	ICV1		ICV1	ICV	09/23/13 12:15		ок
2	E3795-02		IDW-WATER-1	SAM	09/23/13 12:15		ок
3	E3795-02D		IDW-WATER-1D	DUP	09/23/13 12:15		ок
4	E3796-02		P001-DW-2003-1	SAM	09/23/13 12:15		ок
5	E3796-04		P001-DW-2006-1	SAM	09/23/13 12:15		ок
6	E3796-05		P001-DW-2006-2	SAM	09/23/13 12:15		ок
7	E3796-06		P001-DW-2007-1	SAM	09/23/13 12:15		ок
8	E3796-07		P001-DW-2011-1	SAM	09/23/13 12:15		ок

09/23/13 12:15

ОК



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Instrument ID: GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67826

Revie	ew By jim	Review	v On	9/27/2013 9:1	6:28 AM	
STD.	NAME	STD REF.#				
ICV St						
Sr#	Sampleld	ClientID	QcType	Date	Comment	Status
1	E3795-01	IDW-SOIL-1	SAM	09/23/13 09:30		ок
2	E3795-01D	IDW-SOIL-1D	DUP	09/23/13 09:30		ОК
3	E3796-01	P001-DW-2001-1	SAM	09/23/13 09:30		ок
4	E3796-03	P001-DW-2004-1	SAM	09/23/13 09:30		ок
5	E3796-09	P001-S-2001-1	SAM	09/23/13 09:30		ок
6	E3796-10	P001-S-3001-1	SAM	09/23/13 09:30		ок
7	E3796-11	P001-S-3001-2	SAM	09/23/13 09:30		ок
8	E3796-12	P001-S-3002-1	SAM	09/23/13 09:30		ок
9	E3796-13	P001-S-3003-1	SAM	09/23/13 09:30		ок
10	E3796-14	P001-S-6001-1	SAM	09/23/13 09:30		ок
11	E3796-15	P001-S-6002-1	SAM	09/23/13 09:30		ок
12	E3796-16	P001-S-6003-1	SAM	09/23/13 09:30		ОК



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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67827

Revie	ew By jim	Review	v On	9/24/2013 3:	10:40 PM	
STD.	NAME	STD REF.#				
ICV St		W1700,W1756,W1805				
Sr#	Sampleld	ClientID	QcType	Date	Comment	Status
1	LB67827BLS	MBS	MB	09/23/13 13:10		ОК
2	LB67827BSS	LCSS	LCS	09/23/13 13:10		ок
3	E3770-03	CARSON-50	SAM	09/23/13 13:10		ок
4	E3770-03D	CARSON-50D	DUP	09/23/13 13:10		ок
5	E3770-03S	CARSON-50S	MS	09/23/13 13:10		ок
6	E3770-06	3033	SAM	09/23/13 13:10		ок
7	E3796-01	P001-DW-2001-1	SAM	09/23/13 13:10		ок
8	E3796-02	P001-DW-2003-1	SAM	09/23/13 13:10		ОК
9	E3796-03	P001-DW-2004-1	SAM	09/23/13 13:10		ОК
10	E3796-04	P001-DW-2006-1	SAM	09/23/13 13:10		ок
11	E3796-05	P001-DW-2006-2	SAM	09/23/13 13:10		ОК
12	E3796-06	P001-DW-2007-1	SAM	09/23/13 13:10		ОК
13	E3796-07	P001-DW-2011-1	SAM	09/23/13 13:10		ОК
14	E3796-08	P001-DW-6035-1	SAM	09/23/13 13:10		ОК
15	E3796-09	P001-S-2001-1	SAM	09/23/13 13:10		ок
16	E3796-10	P001-S-3001-1	SAM	09/23/13 13:10		ок
17	E3796-11	P001-S-3001-2	SAM	09/23/13 13:10		ок
18	E3796-12	P001-S-3002-1	SAM	09/23/13 13:10		ок
19	E3796-13	P001-S-3003-1	SAM	09/23/13 13:10		ок
20	E3796-14	P001-S-6001-1	SAM	09/23/13 13:10		ок
21	E3796-15	P001-S-6002-1	SAM	09/23/13 13:10		ок

E3796-GENCHEM



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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67827

Revi	ew By	jim	Revie	ew On	9/24/2013 3:10:40 PM		
STD.	. NAME	sa	D REF.#				- ··
ICAL S	Standard					•	
ICV S	tandard				·		
ccv s	tandard						
ICSA S	Standard	- 1	•				
CRI St	andard						
Chk St	andard	W1	700,W1756,W1805				
22	E3796-16		P001-S-6003-1	SAM	09/23/13 13:10	,	ок



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E3796-GENCHEM

LB67833BSS

E3770-03

E3770-03D

E3770-03S

E3770-06

E3796-01

E3796-02

LB67833BSS

CARSON-50

CARSON-50D

CARSON-50S

P001-DW-2001-1

P001-DW-2003-1

3033

LCS

SAM

DUP

MS

SAM

SAM

SAM

CENTECH284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: KONELAB 20

Revie	ew By het	a Revi	ew On	9/25/2013 11	:53:46 AM		
STD. NAME STD REF.#							
ICV SI CCV S ICSA S CRI St	tandard tandard standard Standard andard	WP28813,WP28814,WP28815,WP28821 WP28820 WP25452,WP25453,WP28811	WP28816,WP28817,\	WP28818,WP28819			
Sr#	SampleId	ClientID	QсТуре	Date	Comment	Status	
1	0.0PPBCN	0.0PPBCN	CAL	09/24/13 09:15		ок	
2	5.0PPBCN	5.0PPBCN	CAL	09/24/13 09:15		ок	
3	10PPBCN	10PPBCN	CAL	09/24/13 09:15		ок	
4	50PPBCN	50PPBCN	CAL	09/24/13 09:15		ок	
5	100PPBCN	100PPBCN	CAL	09/24/13 09:15		ок	
6	250PPBCN	250PPBCN	CAL	09/24/13 09:15		ок	
7	500PPBCN	500PPBCN	CAL	09/24/13 09:15		ок	
8	LOW	LOW	LDS	09/24/13 09:32		ок	
9	HIGH	HIGH	HDS	09/24/13 09:32		ок	
10	ICV1	ICV1	ICV	09/24/13 10:06		ок	
11	ICB1	ICB1	ICB	09/24/13 10:06		ок	
12	CCV1	CCV1	ccv	09/24/13 10:06		ОК	
13	CCB1	CCB1	ССВ	09/24/13 10:06		ок	
14	LB67833BLS	LB67833BLS	МВ	09/24/13 10:06		ок	
	1			1			

09/24/13 10:06

09/24/13 10:06

09/24/13 10:06

09/24/13 10:06

09/24/13 10:06

09/24/13 10:06

09/24/13 10:14

ОК

OK

OK

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OK

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Instrument ID: KONELAB 20

Daily Analysis Runlog For Sequence/QCBatch ID # LB67833

Revi	ew By het	a Review	v On	9/25/2013 11:5	33:46 AM	
STD. NAME STD REF.# ICAL Standard WP28813,WP28814,WP28815,WP28816,WP28819 ICV Standard WP28821 CCV Standard WP28820 ICSA Standard CRI Standard CRI Standard WP25452,WP25453,WP28811						
22	E3796-03	P001-DW-2004-1	SAM	09/24/13 10:14		ок
23	CCV2	CCV2	ccv	09/24/13 10:14		ок
24	CCB2	CCB2	CCB	09/24/13 10:14	-	ок
25	E3796-05	P001-DW-2006-2	SAM	09/24/13 10:14		ок
26	E3796-06	P001-DW-2007-1	SAM	09/24/13 10:14		ок
27	E3796-07	P001-DW-2011-1	SAM	09/24/13 10:14		ок
28	E3796-08	P001-DW-6035-1	SAM	09/24/13 10:14		ок
29	E3796-09	P001-S-2001-1	SAM	09/24/13 10:14	·	ок
30	E3796-10	P001-S-3001-1	SAM	09/24/13 10:14		ок
31	E3796-11	P001-S-3001-2	SAM	09/24/13 10:21		ок
32	E3796-12	P001-S-3002-1	SAM	09/24/13 10:21		ок
33	E3796-13	P001-S-3003-1	SAM	09/24/13 10:21		ок
34	E3796-14	P001-S-6001-1	SAM	09/24/13 10:21		ок
35	CCV3	CCV3	ccv	09/24/13 10:21		ок
36	CCB3	CCB3	ССВ	09/24/13 10:21		ок
37	E3796-15	P001-S-6002-1	SAM	09/24/13 10:21		ок
38	E3796-16	P001-S-6003-1	SAM	09/24/13 10:21		ок
39	E3796-04	P001-DW-2006-1	SAM	09/24/13 10:42		ок
40	CCV4	CCV4	ccv	09/24/13 10:42		ок
41	CCB4	CCB4	ССВ	09/24/13 10:42		ОК



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Prep Standard - Chemical Standard Summary

Order ID:

E3796

Test:

Corrosivity, Flash Point, Ignitability, Reactive Cyanide, Reactive Sulfide

Prepbatch ID:

PB72404, PB72405,

Sequence ID/Qc Batch ID:

lb67824,lb67825,lb67826,lb67827,LB67833,

Standard ID:

WP24646, WP25452, WP25453, WP25493, WP25494, WP26017, WP27067, WP27069, WP27189, WP27336, WP28340, WP2876, WP28811, WP28812, WP28813, WP28814, WP28815, WP28816, WP28817, WP28818, WP28819, WP28820, WP28821, WP28820, WP

Chemical ID:

W1031,W1059,W1096,W1098,W1120,W1152,W1209,W1210,W1268,W1339,W1585,W1618,W1657,W1692,W1700,W172 2,W1748,W1749,W1752,W1756,W1779,W1780,W1785,W1789,W1805,W1812,

10 11

13



RecipelD	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	WP24646	03/07/2013	09/07/2013	roberto

FROM

21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity:

21.000 L

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
539	CN BUFFER	WP25452	04/11/2013	10/11/2013	
FROM	138.000gram of W1059(SODIUM PHOSPHATE, W1152(DI Water) = Final Quantity: 1000.000 m		D, CRYS, ACS, 2.	5 KG) + 862.000r	ml of

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RecipeID	NAME PYRIDINE-BARBITURIC ACID	NO.	Prep Date	Expiration D	<u>Prepared By</u>
607		WP25453	04/11/2013	10/11/2013	heta
FROM	145.000ml of W1152(DI Water) + 15.000gram of W1096(Hydrochloric Acid, Instra-Analyzed (cs/6) Quantity: 250.000 ml				

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2046	SULFURIC ACID 1:1	WP25493	04/15/2013	10/15/2013	jim
FROM	500.000ml of W1152(DI Water) + 500.000ml of V	l V1692(Sulfuric A	l .cid, Instra-Analyze	ed (cs/6c2.5L)) =	<u> </u> = Final



RecipelD 1768	Magnesium chloride solution, 51% (w/v)	<u>NO.</u> WP25494	Prep Date 04/15/2013	Expiration D 10/15/2013	<u>Prepared By</u> jim
FROM	490.000ml of W1152(DI Water) + 510.000gram = Final Quantity: 1000.000 ml	of W1339(MAGN	ESIUM CHLORID	E, 6-HYD, CRYS	, 12KG)
					·

RecipelD	NAME	NO.	Prep Date	Expiration D	Prepared By
1749	Reactive Cyanide Spike solution, 5PPM	WP26017	05/09/2013	09/30/2013	jim
FROM	5.000ml of W1789(CYANIDE STD 1000PPM 4O solution 0.25 N) = Final Quantity: 1000.000 ml	Z) + 995.000ml (of WP24646(Sodiu	um hydroxide abs	orbing

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STANDARD PREPARATION LOG

RecipeID 143	NAME Reactive sulfide stock std. 1000 ppm	NO. WP27067	Prep Date 07/03/2013	Expiration D 01/03/2014	<u>Prepared By</u> jim
FROM	0.993L of W1152(DI Water) + 7.500gram of W10	31(Sodium Sulfi	de, 500 g) = Final	Quantity: 1.000	L

RecipeID	NAME	<u>NO.</u>	Prep Date	Expiration D 01/03/2014	<u>Prepared By</u>
160	0.5M ZINC ACETATE	<u>WP27069</u>	07/03/2013		jim
FROM	0.889L of W1152(DI Water) + 1.000ml of W1098 110.000gram of W1752(ZINC ACETATE,DIHYD,				

E3796-GENCHEM



RecipelD	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	<u>WP27189</u>	07/10/2013	01/10/2014	roberto

21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity: **FROM**

RecipeID	NAME	<u>NO.</u>	Prep Date	Expiration D	Prepared By
294	Working Std for CN Spike (5 ppm)	<u>WP27336</u>	07/17/2013	09/30/2013	roberto
FROM	5.000ml of W1785(CYANIDE STD 1000PPM 4O solution 0.25 N) = Final Quantity: 1000.000 ml	Z) + 995.000ml d	of WP27189(Sodiu	ım hydroxide abso	orbing
					٠

E3796-GENCHEM

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RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	WP28340	09/03/2013	03/03/2014	roberto
					-

FROM

21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity:

21.000 L

RecipeID	NAME Reactive sulfide LCS std.	<u>NO.</u>	Prep Date	Expiration D	<u>Prepared By</u>
146		WP28776	09/23/2013	09/24/2013	jim
FROM	48.750ml of W1152(DI Water) + 1.250ml of WP2 Quantity: 50.000 ml	27067(Reactive s	ulfide stock std. 10	000 ppm) = Final	

10 11



FROM

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STANDARD PREPARATION LOG

RecipeID	NAME Chloramine T solution	NO. WP28811	Prep Date 09/24/2013	Expiration D 09/25/2013	<u>Prepared By</u> heta
FROM	1.000gram of W1120(CHLORAMINE-T BAKER 2 100.000 ml	250GM) + 99.000	Oml of W1152(DI V	Vater) = Final Qu	antity:

RecipelD	<u>NAME</u>	NO.	Prep Date	Expiration D	Prepared By
3	Standard Cyanide Working Solution 5	<u>WP28812</u>	09/24/2013	09/25/2013	heta
	ppm			<u> </u>	

0.500ml of W1785(CYANIDE STD 1000PPM 4OZ) + 99.500ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

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RecipeID 4	NAME Calibation standard 500 ppb	NO. WP28813	Prep Date 09/24/2013	Expiration D 09/25/2013	Prepared By heta
FROM	10.000ml of WP28812(Standard Cyanide Workin hydroxide absorbing solution 0.25 N) = Final Qu			VP28340(Sodium	
		-			
	•				

RecipelD	NAME.	<u>NO.</u>	Prep Date	Expiration D	Prepared By
5	Calibration Standard 250 ppb	<u>WP28814</u>	09/24/2013	09/25/2013	heta
FROM	5.000ml of WP28812(Standard Cyanide Working hydroxide absorbing solution 0.25 N) = Final Qu			P28340(Sodium	



RecipeID 6	NAME Calibration Standard 100 ppb	NO. WP28815	Prep Date 09/24/2013	Expiration D 09/25/2013	Prepared By heta
FROM	2.000ml of WP28812(Standard Cyanide Working hydroxide absorbing solution 0.25 N) = Final Qu			P28340(Sodium	

RecipelD	NAME	<u>NO.</u>	Prep Date	Expiration D	Prepared By
7	Calibration Standard 50 ppb	<u>WP28816</u>	09/24/2013	09/25/2013	heta
FROM	1.000ml of WP28812(Standard Cyanide Working hydroxide absorbing solution 0.25 N) = Final Qu			P28340(Sodium	
			·		·
			•		



RecipeID 8	NAME Calibration Standard 10 ppb	NO. WP28817	Prep Date 09/24/2013	Expiration D 09/25/2013	Prepared By heta
FROM	2.000ml of WP28813(Calibation standard 500 pp solution 0.25 N) = Final Quantity: 100.000 ml	bb) + 98.000ml of	f WP28340(Sodiur	n hydroxide abso	rbing

RecipeID 9	NAME Calibration Standard 5 ppb	NO. WP28818	Prep Date 09/24/2013	<u>Expiration D</u> 09/25/2013	<u>Prepared By</u> heta
FROM	1.000ml of WP28813(Calibation standard 500 pp solution 0.25 N) = Final Quantity: 100.000 ml	ob) + 99.000ml o	I f WP28340(Sodiu	n hydroxide abso	rbing
					•



RecipelD 167	NAME 0 ppb CN calibration std	NO. WP28819	Prep Date 09/24/2013	Expiration D 09/25/2013	Prepared By heta
FROM	100.000ml of WP28340(Sodium hydroxide abso	rbing solution 0.2	25 N) = Final Quar	ntity: 100.000 ml	
·					

RecipeID	NAME	<u>NO.</u>	Prep Date	Expiration D	Prepared By
1593	CN CCV std, 250PPB	<u>WP28820</u>	09/24/2013	09/25/2013	heta
FROM	5.000ml of WP28812(Standard Cyanide Work hydroxide absorbing solution 0.25 N) = Final (/P28340(Sodium	
	nydroxide absorbing soldtion 0.25 N) — Filland	Quantity. 100.000	****		
	•				

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RecipeID 2168	NAME RCN ICV STD, 100 PPB	NO. WP28821	<u>Prep Date</u> 09/24/2013	<u>Expiration D</u> 09/25/2013	<u>Prepared By</u> heta
FROM	2.000ml of WP26017(Reactive Cyanide Spike so absorbing solution 0.25 N) = Final Quantity: 100		98.000ml of WP28	3340(Sodium hyd	roxide



Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3910-1 / Sodium Sulfide, 500 g	H23586	10/02/2019	10/02/2009 /	10/02/2009 / jmoore	W1031
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYS, ACS, 2.5 KG	H29154	01/30/2020	03/03/2010 /	01/08/2010 / jmoore	W1059
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	h04040	11/24/2019	03/03/2010 /	11/25/2009 / jmoore	W1096
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	h04040	11/24/2019	04/23/2010 / jmoore	11/25/2009 / jmoore	W1098
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech
PCI Scientific Supply, Inc.	JTE494-6 / CHLORAMINE-T BAKER 250GM	h23602	12/14/2019	03/03/2010 /	12/15/2009 / jmoore	W1120
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech
Res-Kem General water	DIW / DI Water	Lab certified	02/23/2015	02/23/2010 /	02/23/2010 / divya	W1152

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9393-3 / Pyridine, 4L	L15470	05/31/2018	05/30/2008 / jmoore	05/30/2008 / jmoore	W1209
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	Y32603	10/28/2023	10/27/2003 / jmoore	10/27/2003 / jmoore	W1210
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	H36602	05/26/2020	08/18/2010 / jmoore	05/25/2010 / jmoore	W1268
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1.05832.9012 / MAGNESIUM CHLORIDE, 6-HYD, CRYS, 12KG	a0031132	07/21/2020	07/21/2010 / jmoore	07/20/2010 / jmoore	W1339
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals	xx0045-3 / p-xylene	50225035	09/28/2016	09/18/2012 / jim	09/28/2011 / apatel	W1585
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	PB002849SP	12/20/2016	01/07/2013 / jim	12/20/2011 / apatel	W1618

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PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	2203102		Opened By	Received By	Lot #
			02/28/2014	05/01/2012 / jim	04/10/2012 / apatel	W1657
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	K43061	06/06/2017	12/26/2012 / roberto	06/06/2012 / apatel	W1692
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITR E	2203415	09/30/2013	07/08/2013 / apatel	06/08/2012 / apatel	W1700
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EMD-FX0410-5 / FORMALDEHYDE SOLUTION 450ML	52062	08/23/2017	08/01/2013 / jim	08/23/2012 / apatel	W1722
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2210864	10/31/2013	12/13/2012 / jim	12/10/2012 / apatel	W1748
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	2205272	04/30/2014	01/02/2013 / jim	12/10/2012 / apatel	W1749



Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J4296-1 / ZINC ACETATE,DIHYD,CRYS,AC S,500G	0000020964	08/22/2017	06/24/2013 / jim	12/27/2012 / apatel	W1752
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL35830-4 / IODINE SOLUTION .025N 1L	2301004	12/31/2013	05/01/2013 / jim	01/08/2013 / apatel	W1756
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	2301099	06/30/2014	04/30/2013 /	04/05/2013 / apatel	W1779
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	2301297	12/31/2014	06/03/2013 / jim	04/05/2013 / apatel	W1780
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	2303D97	09/30/2013	04/30/2013 / apatel	04/24/2013 / apatel	W1785
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	4303B10	09/30/2013	05/06/2013 / apatel	05/06/2013 / apatel	W1789

E3796-GENCHEM



Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	2306598	05/31/2015	07/03/2013 / roberto	06/20/2013 / apatel	W1805

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	2303957	03/31/2015	08/20/2013 / jim	08/08/2013 / apatel	W1812

E3796-GENCHEM 105 of 136



100 Matsonford Road Suite 200 Radnor, PA 19087

phone: 1-800-932-5000

Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 2205272

Product Number: BDH0194

Expiration Date: APR 2014

Manufacture Date:5/11/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist.

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Name	CAS#	Grade	
Inert Dye	Proprietary	Commercial Grade	
Potassium Phosphate, Monobasic	7778-77-0	ACS	
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade	
Sodium Phosphate, Dibasic	7558-79-4	ACS	
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP	

Assay Method	Specification	Result	
Clarity, Color, Odor	Clear, yellow, odorless	Passed Test	;
pH determination	7.00 ± 0.01 pH at 25.0 °C	7.01 pH at 25.0 °C	ĺ
	Clarity, Color, Odor	Clarity, Color, Odor Clear, yellow, odorless	Clarity, Color, Odor Clear, yellow, odorless Passed Test

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74–461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	A. C. La chele fifther and the same Shelf Life	
BDH0194-20L	24 months	

Recommended Storage: 15°C - 30°C (59°F - 86°F)

La Pelle Olhansen

LaNelle Ohlhausen Quality Assurance **VWR**

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This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials - Contents of Certificates and Labels."

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customerservice@riccachemical.com

Certificate of Analysis

lodine (lodine-lodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S2-

Lot Number: 2301004

Product Number: 3975

Expiration Date: DEC 2013

Manufacture Date:1/2/2013

Contains:

Name	CAS#	Grade
lodine, 12	7553-56-2	ACS
Potassium lodide, Kl	7681-11-0	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, brown, Iodine odor	Passed Test
Assay at 20 °C (traceable to NIST	Titrimetric vs. Sodium Thiosulfate (Starch	$0.02500 \pm 0.00002 \text{ N at}$	0.02502 N at 20.0 °C
SRM 136)	Indicator)	20.0 °C	

Specification	Reference	Method Number
Standard Iodine Solution, 0.0250 N	АРНА	4500-S2- F
Iodine Solution (approximately 0.025 N)	EPA (SW-846)	9031
Standard Iodine Solution, 0.0250 N	EPA	376.1
Iodine Solution (approximately 0.025 N)	EPA (SW-846)	9034

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life	
3975-32	12 months	
3975-1	12 months	
3975-16	12 months	

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 2301099

Product Number: 1601

Expiration Date: JUN 2014

Manufacture Date:1/8/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ±

pH 10.31 (0 °C), pH 10.23 (5 °C), pH 10.17 (10 °C), 10.11 (15 °C), 10.05 (20 °C), 9.95 (30 °C), 9.91 (35 °C), 9.87 (40 °C), 9.81 (50 °C)

Contains:

Contains.			
Name	CAS#	Grade	
Inert Dye	Proprietary	Commercial Grade	
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade	
Sodium Bicarbonate, NaHCO3	144-55-8	ACS	
Sodium Carbonate, Na2CO3	497-19-8	ACS	
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP	

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, blue, odorless	Passed Test
pH at 25 °C (traceable to NIST	pH determination	$10.000 \pm 0.010 \text{ pH}$ at 25.0 °	10.006 pH at 25.0 °C
SRM 186 & 191)		С	

Specification	Reference	Method Number	
Commercial Buffer Solutions	ASTM	D 1293 B	
Buffer C	ASTM	D 5464	
Buffer C	ASTM	D 5128	

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life	
1601-2.5	18 months	
1601-4	18 months	
1601-32CS	18 months	
1601-16CS	18 months	
1601-32	18 months	
1601-20B	18 months	
1601-5	18 months	
1601-20	18 months	
1601-1	18 months	
1601-1CT	18 months	
1601-1CS	18 months	
1601-16	18 months	
1601-55	18 months	
Recommended Storage: 15°C - 30°C (59°F	- 86°F)	

Version: 4

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Version: 4



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phone: 1-800-932-5000

Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 2301297

Product Number: BDH0194

Expiration Date: DEC 2014

Manufacture Date:1/11/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.

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Contains.		the state of the s	
Name	CAS#	Grade	
Inert Dye	Proprietary	Commercial Grade	£.
Potassium Phosphate, Monobasic	7778-77-0	ACS	7
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade	
Sodium Phosphate, Dibasic	7558-79-4	ACS	
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP	

Test Name	Assay Method	Specification	Result	1
Appearance	Clarity, Color, Odor	Clear, yellow, odorless	Passed Test	
pH at 25 °C (traceable to NIST	pH determination	7.00 ± 0.01 pH at 25.0 °C	7.00 pH at 25.0 °C	

SRM 186 & 191)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Shelf Life Part Number BDH0194-20L 24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 2303957

Product Number: BDH0198

Expiration Date: MAR 2015

Manufacture Date:3/18/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.

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Contains.			
Name	CAS#	Grade	7
Inert Dye	Proprietary	Commercial Grade	<u> </u>
Potassium Acid Phthalate	877-24-7	Buffer or ACS	***************************************
Preservative (No Mercury compounds or	Proprietary	Commercial Grade	*
Formaldehyde)			à
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP	

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, light red, odorless	Passed Test
pH at 25 °C (traceable to NIST	pH determination	4.00 ± 0.01 pH at 25.0 °C	3.99 pH at 25.0 °C
SRM 185 & 186)			

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number Shelf Life

BDH0198-20L 24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Cyanide Standard, 1 mL = 1 mg CN, 1000 ppm CN

Lot Number: 2303D97

Product Number: 2543

preparation

Expiration Date: SEP 2013

Manufacture Date:3/29/2013

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Contains:			
Name	CAS#	Grade	
Potassium Cyanide, KCN	151-50-8	ACS	
Sodium Hydroxide, NaOH	1310-73-2	ACS	
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP	

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, cyanide	Passed Test
		odor	
Certified Concentration	Based on accurate volumetric	$1000 \pm 5 \text{ ppm CN-}$	1000 ppm CN-

Specification	Reference	Method Number	
Stock Standard Cyanide Solution	АРНА	4500-CN- F	
Stock Cyanide Solution	АРНА	4500-CN- E	
Stock Cyanide Solution	АРНА	4500-CN- K	
Stock Cyanide Solution	АРНА	4500-CN- H	
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846)	7.3.3.2	
Cyanide Calibration Stock Solution (1,000	EPA (SW-846)	9213	
mg/L CN-)			
Stock Cyanide Solution	EPA	335.3	
Stock Cyanide Solution	EPA '	335.2	
Cyanide Solution Stock	ASTM	D 4282	
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM	D 4374	

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life	
2543-4	6 months	
2543-32	6 months	
2543-16	6 months	

Recommended Storage: 2°C - 8°C (36°F - 46°F) La Sell Ohlhausen

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Certificate of Analysis

Starch Indicator, 0.5% (w/v) Aqueous Solution, Mercury Free, for Iodometric Titrations

Lot Number: 2306598

Product Number: 8000

Expiration Date: MAY 2015

Manufacture Date:6/6/2013

This product is Mercury-free.

Contains:			
Name	CAS#	Grade	
Salicylic acid, C7H6O3	69-72-7	ACS	
Starch, soluble, (C6H10O5)n	9005-84-9	ACS	
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I	I), EP, USP

Test Name	Assay Method	Specification	Result	27
Appearance	Clarity, Color, Odor	Translucent, odorless	Passed Test	شفد
Suitability for Use	Characteristic Check	Colorless (Iodine absent) -	Passed Test	1
		Blue (Iodine present)		7

Specification	Reference	Method Number	+ **
Starch Solution	АРНА	4500-S2- F	
Starch Indicator Solution	АРНА	4500-Cl B	
Starch Indicator	АРНА	4500-SO32- B	
Starch indicator solution	АРНА	2350 B	
Starch indicator solution	АРНА	2350 E	
Starch Solution	АРНА	510 B	
Starch Solution	АРНА	5530 C	
Starch Indicator	АРНА	4500-C1 C	•
Starch Indicator	EPA	345.1	

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life	
8000-2.5	24 months	
8000-32	24 months	
8000-5	24 months	
8000-1	24 months	
8000-16	24 months	

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Ja Jelle Ohlhausen

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Certificate of Analysis

Cyanide Standard, 1 mL = 1 mg CN, 1000 ppm CN

Lot Number: 4303B10

Product Number: 2543

Expiration Date: SEP 2013

Manufacture Date:3/29/2013

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Contains

CAS#	Grade
151-50-8	ACS
1310-73-2	ACS
7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP
	151-50-8 1310-73-2

Test Name	Assay Method	Specification	Result	
Appearance	Clarity, Color, Odor	Clear, colorless, cyanide	Passed Test	.
		odor		
Certified Concentration	Based on accurate volumetric preparation	1000 ± 5 ppm CN-	1000 ppm CN-	

Specification	Reference	Method Number	
Stock Standard Cyanide Solution	АРНА	4500-CN- F	
Stock Cyanide Solution	APHA	4500-CN- E	
Stock Cyanide Solution	АРНА	4500-CN- K	
Stock Cyanide Solution	АРНА	4500-CN- H	
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846)	7.3.3.2	
Cyanide Calibration Stock Solution (1,000	EPA (SW-846)	9213	
mg/L CN-)	•		
Stock Cyanide Solution	EPA	335.3	
Stock Cyanide Solution	EPA _	335.2	
Cyanide Solution Stock	ASTM	D 4282	
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM	D 4374	

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

. Part Number	Shelf Life
2543-4	6 months
2543-32	6 months
2543-16	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

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LaNelle Ohlhausen Quality Assurance

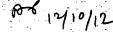
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Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C

Lot Number: 2210864

Product Number: 1615

Expiration Date: OCT 2013

Manufacture Date: 11/2/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist-

Contains

Name	CASE	Grade and a second second
Potassium Chloride, KCI	7447-40-7	ACS TO THE REPORT OF THE REPOR
Sodium Hydroxide, NaOH	1310-73-2	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

The state of the s	<u>f</u>			
Test Name	Assay Method	Commence of the second state of the	Specification Result	۱۳۰ تا در در ۱۳۱۲ که دستونی شده در ندریت پید وی ۱۳۰ تا ۱۳۰ تریم ترین درکند مصدحه میکند تا
Appearance	Clarity, Color, Orior		Clear, colorless, odorless Passed Te	s t
pH at 25 °C (traceable to NIST	pH determination		12.000 ± 0.010 pH at 25.0 12.000 pH	lat 25.0 °C
SRM 186 & 191)		The second of th	and the second of the second o	

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Belances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Numb	erman grant and a	en en en	والمراد والمساور	Till state & part	Shelf Life
1615-2.5					- 12 months
1615-32		÷ . ·			12 months
1615-20B		•			12 months
1615-5					12 months
1615-1					12 months
1615-1CT		• • •			12 months
1615-16					12 months
Recommend	led Storage: 15°C -	30°C (59	°F - 86°F)	2 · · · · · · · · · · · · · · · · ·

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Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 2203102

Product Number: 1493

Expiration Date: FEB 2014

Manufacture Date: 3/6/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ±

0.05.

pH 1.93 (10 °C), 1.98 (15 °C), 1.98 (20 °C), 2.01 (30 °C), 2.03 (35 °C), 2.03 (40 °C), 2.04 (45 °C), 2.04 (50 °C)

Contains

Grade
ACS
ACS
ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result	
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test	— j
pH at 25 °C (traceable to NIST	pH determination	$2.000 \pm 0.010 \text{ pH at } 25.0 ^{\circ}$	2.003 pH at 25.0 °C	1
SRM 185 & 186)		С	•	1

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

La Pell Ohlhausen

Part Number	Shelf Life	en la companya di Amerika di Amer
1493-2.5	24 months	
1493-32	24 months	
1493-5	24 months	
1493-1	24 months	
1493-1CT	24 months	
1493-16	24 months	
Recommended Storage: 15°C - 30°C (59°F	- 86°F)	

LaNelle Ohlhausen Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.



RICCA CHEMICAL COMPANY

Arlington, TX 76012 Pocomoke City, MD 21851 Batesville, IN 47006 http://www.riccachemical.com 1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 2203415

Product Number: 7900

Expiration Date: SEP 2013

Manufacture Date:3/14/2012

Contains: Grade - 3 5. 3 CAS# Name Commercial Grade Proprietary Organic Preservative

ACS 497-19-8 Sodium Carbonate, Na2CO3 ACS 10102-17-7

Sodium Thiosulfate Pentahydrate, Na2S2O3.5H2O

7732-18-5 Water, Deionized, H2O

ACS, ASTM D 1193 (Type I), EP, USP

9034

· Result Specification, Assay Method Test Name Passed Test Clear, coloriess, slight Clarity, Color, Odor Appearance organic odor 0.02500 ± 0.00001 N at 0.02501 N at 20.0 °C Titrimetric vs. Potassium lodate (Starch Assay at 20 °C (traceable to NIST 20.0 °C Indicator)

SRM 136) Method Number Reference Specification 4500-S2- F APHA Standard Sodium Thiosulfate Solution, 0.0250 N 4500-O D APHA Standard Sodium Thiosulfate Titrant 4500-O E Standard Sodium Thiosulfate Titrant . APHA 4500-O F Standard Sodium Thiosulfate Titrant **APHA** APHA 4500-CI B Standard Sodium Thiosulfate Titrant, 0.025 APHA 4500-O C Standard Sodium Thiosulfate Titrant 5530 C APHA Standard Sodium Thiosulfate Titrant, 0.025 EPA (SW-846) 9031

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Shelf Life (unopened container):

Standard Sodium Thiosulfate Solution (0.025

Standard Sodium Thiosulfate solution (0.025

Shelf Life Part Number 18 months 7900-2.5 18 months 7900-32 18 months 7900-5 7900-1 18 months 18 months 7900-16 Recommended Storage: 15°C - 30°C (59°F - 86°F)

Un Oklhausen

LaNelle Ohlhausen Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials - Contents of Certificates and Labels."

EPA (SW-846)

To determine manufacture site using lot number, visit http://www.nccachemical.com/Documents/lot.pdf.



EMD Chemicals Inc. 480 S. Democrat Road Gibbstown, NJ 08027 Phone 856–423–6300 Fax 856–423–4389

Name:

Magnesium Chloride Hexahydrate Extra Pure

USP,Ph Eur,BP,FCC,E511

Item Number:

1.05832.9027, 1.05832.9028, 1.05832.9524, 1.05832.9527, 00583292, 1.05832.1000, 1.05832.1000A, 1.05832.9012

Lot Number:

A0031132

Formula: MgCl₂-6H₂O

Formula Wt: 203.30

Data Order No: 000178869

CHARACTERISTIC	REQUIREMENT		RESULTS	UNITS
	Min.	Max.		
Aluminium (Ai)		0.0001	< 0.0001	%
pH (5%, water)	4.5	7.0	5.5	
Original Examination Date			6-FEB-2009	
Minimum shelf life			28-FEB-2011	
Assay (complexometric)	99.0	101.0	100.4	%
Mercury (Hg)		0.0001	< 0.0001	%
Water	51.0	55.0	53.7	%
Lead (Pb)		0.0004	< 0.0004	%
Arsenic (As)		0.0002	< 0.0002	%
Iron (Fe)		0.0005	< 0.0005	%
Heavy metals (as Pb)		0.001	< 0.001	%
Sulfate (SO4)		0.005	< 0.002	%
Identification			Passes test	
Acidity or alkalinity			Passes test	,
Residual Solvents (Ph.Eur./ICH)	,		Excluded by manufacturing process	
Insoluble matter		0.005	< 0.005	%
Organic volatile impurities (according to USP)			Meets requirements	
Endotoxins		3.0	< 3.0	I.U./g
Bromide (Br)		0.05	< 0.05	%
Potassium (K)		0.05	< 0.05	%
Calcium (Ca)		0.01	< 0.001	%
Ammonium (NH4)		0.005	< 0.005	%
Appearance of solution			Passes	
Barium (Ba)			Passes test	
Microbial limits-Total aerobic bacteria		100	<100	
Microbial limits-Total combined mold and yeast		100	<100	

Jim Morgera, Quality Control Manager Release Date: 4/2/2009



EMD Chemicals Inc.

480 S. Democrat Road Gibbstown, NJ 08027 Phone 856–423–6300 Fax 856–423–4389

Name:

Formaldehyde Solution

Formula: HCHO

GR ACS

Meets ACS Specifications

milula. nono

Item Number:

FX0410-1, FX0410-20, FX0410-3, FX0410-5

Formula Wt: 30.03

Lot Number:

52062

Data Order No: 000428713

CHARACTERISTIC	REQUI	REQUIREMENT		UNITS
	Min.	Max.		
Assay	36.5	38.0	36.55	%
Chloride (CI)		5	<5	ppm
Color (APHA)		10	<10	
Form			Passes test	
Heavy metals (as Pb)		5	<5	ppm
iron (Fe)		5	<5	ppm
Residue after ignition		0.005	<0.005	%
Sulfate (SO4)		0.002	<0.002	%
Titrable acid		0.006	<0.006	meq/g

Lene a. Dorotelle

Gene A. Desotelle, Quality Control Manager

Release Date: 3/7/2012

EMD Chemicals Inc.

(Formerly EM Science, A Division of EM Industries, Inc.)

An Affiliate of Merck KGaA, Darmstadt, Germany



Hydrochloric Acid, 36.5-38.0%

`BAKER INSTRA-ANALYZED® Reagent (For Trace Metal Analysis)

Product No. 9530 Lot No. H04040 Release Date 01/26/2009

Certificate of Analysis			
TEST	SPECIFICATION	RESULT	
Meets A.C.S. Specifications			
Assay (as HCI) (by acid-base titn	n) 36.5 - 38.0 %	37.5 %	
Cofor (APHA)	10 max.	5	
Residue after ignition	3 ppm max.	1 ppm	
Specific Gravity at 60°/60°F	1.185 - 1.192	1.187	
Bromide (Br)	0.005 % max.	< 0.005 %	
Extractable Organic Substances	5 ppm max.	< 1 ppm	
Free Chlorine (as Ci)	0.5 ppm max.	< 0.5 ppm	
Trace Impurities (in ppm):			
Phosphate (PO ₄)	0.05 max.	< 0.03	
Sulfate (SO ₄)	0.5 max.	< 0.3	
Sulfite (SO ₃)	0.8 max.	< 0.2	
Ammonium (NH ₄)	. 3 max.	<1	
Arsenic (As)	0.01 max.	< 0.003	
Trace Impurities (in ppb):			
Aluminum (Al)	10 max.	< 0.2	
Arsenic and Antimony (as As)	5 max.	<3	
Barium (Ba)	1 max.	< 0.2	
Beryllium (Be)	1 max.	< 0.2	
Bismuth (Bi)	10 max.	<1	
Boron (B)	20 max.	1	
Cadmium (Cd)	1 max.	< 0.3	
Calcium (Ca)	50 max.	3	
Chromlum (Cr)	1 max.	0.5	
Cobalt (Co)	1 max.	< 0.3	
Copper (Cu)	1 max.	< 0.1	
Gallium (Ga)	1 max.	< 0.2	
Germanium (Ge)	3 max.	< 2	
Gold (Au)	4 max.	< 0.2	
Heavy Metals (as Pb)	100 max.	< 50	
Iron (Fe)	15 max.	1	
Lead (Pb)	1 max.	< 0.5	
Lithium (Li)	1 max.	< 0.2	
Magnestum (Mg)	10 max.	0.6	
Manganese (Mn)	1 max.	< 0.4	
Mercury (Hg)	0.5 max.	< 0.1	
Molybdenum (Mo)	10 max.	<3	
Nickel (Ni)	4 max.	0.3	

Niobium (Nb)	1 max.	0.2
Potassium (K)	9 max.	<2
Selenium (Se)	Information Only	1
Silicon (Si)	100 max.	< 0.4
Silver (Ag)	1 max.	< 0.3
Sodium (Na)	100 max.	3
Strontium (Sr)	1 max.	< 0.2
Tantalum (Ta)	1 max.	< 0.9
Thailium (TI)	5 max.	<2
Tin (Sn)	5 max.	< 0.8
Titanium (Ti)	1 max.	< 0.2
Vanadium (V)	1 max.	< 0.2
Zinc (Zn)	5 max.	4
Zirconium (Zr)	1 max.	< 0.1
Product Information (not spe	cifications):	
Appearance (dear, fuming liqui	d)	
······································		
For Laboratory, Research or M	anufacturing Use	

ISO

Country of Origin:

Philipphung, NJ 9601;2000 & 14001;1996
Paris, XY 5001;2000
Mexico City, Mexico 9001;2000
Deventer, Holland 5001;2000 & 14001;1956
Selangor, Malaysia 9001;2000

USA

Mary M. Matlong

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For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151 Mailinckroott Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905

DISTRIBUTED BY SEIDLER CHEMICAL 973-465-1122



Potassium Phosphate, Monobasic, Crystal

`BAKER ANALYZED'® A.C.S. Reagent (potassium dihydrogen phosphate)

Product No. 3246 Lot No. H21149 Release Date 07/13/2009

Certificate of Analysis				
THE TOTAL PARTY	SEE CIFICATION F. 187	RESULT :		
Exceeds A.C.S. Specifications				
Meets Reagent Specifications for t	esting USP/NF monographs			
Assay (KH ₂ PO ₄) (by acidimetry)	99.0 % min.	100.1 %		
Insoluble Matter	0.01 % max.	< 0.002 %		
Loss on Drying at 105°C	0.2 % max.	< 0.02 %		
pH of 5% Solution at 25°C	4.1 - 4.5	4.4		
Chloride (CI)	0.001 % max.	< 0.001 %		
Fluoride (F)	0.001 % max.	< 0.0002 %		
Nitrogen Compounds (as N)	0.001 % max.	< 0.001 %		
Sulfate (SO ₄)	0.003 % max.	< 0.002 %		
Heavy Metals (as Pb)	0.001 % max.	< 0.0005 %		
Iron (Fe)	0.002 % max.	< 0.001 %		
Lead (Pb)	0.001 % max.	< 0.001 %		
Sodium (Na)	0.005 % max.	0.0009 %		
Trace Impurities (in ppm):				
Arsenic (As)	3 max.	< 3		

For Laboratory, Research or Manufacturing Use

Country of Origin:

USA



Philipsburg, NJ 9001:2000 & 14001:1996 Paris, KY 9001:2000

Mexico City, Mexico 9001:2000 Deventer, Holland 9001:2000 & 14001:1996 Selangor, Malaysia 9001:2000

mary m. matlon

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151 Mallinckrodt Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905





Sodium Sulfide, 9-Hydrate, Crystal

Product No. 3910 Lot No. H23586 Release Date 06/05/2009

e de la lace	SPECIFICATION .	RESULT_1
Meets A.C.S. Specifications		
Meets Reagent Specifications for testing	g USP/NF monographs	
Assay (Na ₂ S-9H ₂ O)	98.0 % min.	100.1 %
Sulfite and Thiosulfate (as SO ₂)	0.1 % max.	0.002 %
Ammonium (NH4)	0.005 % max.	< 0.005 %
Iron (Fe)	Passes Test	Passes Test
For Laboratory, Research or Manufactu	iring Use	
Product may turn slightly yellow on expe	osure to air. Color has no effect	
on specifications.		
Keep material refrigerated between 2-8	°C (36-46°F).	
Country of Origin: USA		

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151
Malinckrodt Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905



Sand Purified Washed and Ignited

Product No. 3382 Lot No. H36602 Release Date 09/14/2009

•		Release Date 09/14/200
Certificate of Analysis		
	Seeque policies	Control of the second s
Meets Reagent Specifications for testing USP/	NF monographs	····
Substances Soluble in HCI	0.16 % max.	< 0.01 %
For Laboratory, Research or Manufacturing Us	е	
Country of Origin: USA		
Philipsburg, NJ 9601:2000 & 14001:1995 Park, XY 9001:2000		march m Watlah
Mexico City, Mayden 9001;2000		marcy M. Matlon
Deventer, Holland 9001:2000 & 14001:1996		96,2007) 9년, (Andoor: Parktos of 104 중 Perturanty Anich t
Selangor, Malayda, 9001:2000		randa de de la terbaraç kelan i

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151 Mallinckrodt Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905

W1693



Sulfuric Acid

Certificate of Analysis: 9673-K43061 (B)

`BAKER INSTRA-ANALYZED[®] Reagent For Trace Metal Analysis Low Selenium

Product No. 9673 Lot No. K43061 Release Date 10/26/2011

•	Low Selenium	Release Date 10/20/2
Certificate of Analysis		
AND THE RESERVE OF THE PARTY OF	Proceeding	BENE
Meets A.C.S. Specifications		
Assay (H ₂ SO ₄)	95.0 - 98.0 %	96.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	10 max.	5
Residue after Ignition	3 ppm max.	< 1 ppm
Substances Reducing Permanganate (as SO ₂)	2 ppm max.	< 2 ppm
Trace Impurities (in ppm):		
Ammonium (NH ₄)	1 max.	< 0.5
Chloride (CI)	0.1 max.	< 0.05
Nitrate (NO ₃)	0.2 max.	< 0.1
Phosphate (PO ₄)	0.5 max.	< 0.05
Trace Impurities (in ppb):		
Aluminum (AI)	30 max.	< 0.2
Arsenic and Antimony (as As)	4 max.	< 2
Barium (Ba)	10 max.	< 0.2
Beryllium (Be)	10 max.	< 0.2
Bismuth (Bi)	10 max.	1
Boron (B)	10 max.	2
Cadmium (Cd)	2 max.	< 0.3
Calcium (Ca)	50 max.	0.4
Chromium (Cr)	6 max.	< 0.4
Cobalt (Co)	0.5 max.	< 0.3
Copper (Cu)	1 max.	< 0.1
Gallium (Ga)	10 max.	< 0.2
Germanium (Ge)	10 max.	< 2
Gold (Au)	10 max.	< 0.2
Heavy Metals (as Pb)	500 max.	< 100
Iron (Fe)	50 max.	4.5
Lead (Pb)	0.5 max.	< 0.5
Lithium (Li)	10 max.	< 0.2
Magnesium (Mg)	7 max.	< 0.2
Manganese (Mn)	1 max.	< 0.4
Mercury (Hg)	0.5 max.	0.1
Molybdenum (Mo)	10 max.	< 3
Nickel (Ni)	2 max.	< 0.3
Niobium (Nb)	10 max.	0.2

500 max.	< 2
50 max.	19
100 max.	4.3
1 max.	< 0.3
500 max.	< 0.5
5 max.	< 0.2
10 max.	< 0.9
20 max.	< 2
5 max.	< 0.8
10 max.	< 0.2
10 max.	< 0.2
5 max.	< 0.3
10 max. < 0.1	
	50 max. 100 max. 1 max. 500 max. 5 max. 10 max. 20 max. 5 max. 10 max. 5 max. 10 max. 5 max.

Country of Origin:

USA

ISO

Phillipsburg, NJ 9001;2008 & 14001;2004 Paris, KY 9001;2008 Mexico City, Moxico 9001;2006 Deventer, Holland 9001;2006 & 14001;2004 Setangor, Malaysta 9001;2008 MM SIL

Blobal Disabler of Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 855-282-6867 or 610-573-2600

Avantor ™ Performance Materials. Inc.

3477 Corporate Parkway • Suite #200 • Center Valley, PA 18034 • U.S.A. • Phone: 610.573.2600 • Fax: 610.573.2610



CERTIFICATE OF ANALYSIS SODIUM HYDROXIDE PELLETS

ACS/USP/NF/FCC GRADE

Lot # PB002849SP OC # NP9044

Date of Manufacture: 01/20/10

Expiration Date: Three Years from Date of Manufacture Main Catalog #: 289USP/NF, xf2890000NF

Parameter	Monograph	Specification	Result
	ACS	97.0% min.	
	NF	95.0% - 100.5%	
Assay (as NaOH)	FCC	95.0% - 100.5%	99.52%
Identification	NF	To Pass Test	Pass
	ACS	1.0% max.	
	NF	3.0% max	
Na ₂ CO ₃	FCC	3.0% max	0.31%
Sulfate (SO ₄)	ACS	0.003% max.	<0.003%
Chloride (Cl)	ACS	0.005% max.	<0.005%
Nitrogen Compounds (as N)	ACS	0.001% max.	<0.001%
Phosphate (PO ₄)	ACS	0.001% max.	<0.001%
Heavy Metals (as Ag)	ACS	0.002% max	<0.002%
Heavy Metals (as Pb)	NF	0.003% max.	<0.002%
Lead (Pb)	FCC	2ppm max.	<2ppm
Iron (Fe)	ACS	0.001%	<0.001%
Nickel (Ni)	ACS	0.001% max.	<0.001%
) ((II)	ACS	0.1	<0.1ppm
Mercury (Hg)	FCC	0.1ppm max.	-0.1ppiii
Calcium (Ca)	ACS	0.005% max.	<0.005%
Magnesium (Mg)	ACS	0.002% max.	<0.002%
	ACS	0.02%	<0.02%
Potassium (K)	NF	To Pass Test	Pass
Arsenic (As)	FCC	3ppm max.	<3ppm
Insoluble Substances and Organic	NF		
Matter	FCC	To Pass Test	Pass

Form: Sodium Hydroxide, ACS/USP/NF/FCC, #101, rev. 2.6, 09/08, EF

Approved by: E. Frenkel, Director of Quality Control

<u>Disclaimer.</u> For Industrial, Pharmaceutical, Flavor & Fragrance or Lab Use. Not intended for use as an active substance in Food or Drug. Not to be considered a Medical Device. Not intended for use as a Disinfectant as defined by the EPA. The appropriate use of this product is the sole responsibility of the user. (Rev. # disclaimer only, rev 3.3 10/05/05 PD)

PHARMCO-AAPER

www.pharmcoaaper.com

1-800-243-5360

E3796-GENCHEM

129 of 136

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10 11

12

CHEMITECH

SHIPPING DOCUMENTS

Page 1 of 1

USEPA

DateShipped 9/20/2013
CarrierName: Courier Pick Up

Special Instructions:

AirbillNo N/A

CHAIN OF CUSTODY RECORD

RFP No. 263 / Weston Solutions Contact Name: Scott Snyder Contact Phone: 732-570-4993 No: 2-092013-122035-0017

Cooler # 1 of 1 Lab: ChemTech

Lab Phone:

Lab#	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
<u>, </u>	P001-DW-2001-1	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
<u> </u>	P001-DW-2003-1	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
<u>(</u>	P001-DW-2004-1	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
}. —	P001-DW-2006-1	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
<u> </u>	P001-DW-2006-2	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
<u> </u>	P001-DW-2007-1	Area 02	RCRA Characteristics	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
<u> </u>	P001-DW-2011-1	Area 02	RCRA Characterisites	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
1	P001-DW-6035-1	Area 06	RCRA Characterisitcs	Liquid Waste	9/20/2013	1	8-oz. jar	4 C	N
₹	P001-S-2001-1	Area 02	RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
<u> </u>		Area 03	RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
0	P001-S-3001-1		RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
μ	P001-S-3001-2	Area 03	RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
7_	P001-S-3002-1	Area 03	RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
13_	P001-S-3003-1	Area 03	RCRA Characteristics	Soil	9/20/2013	1	8-oz. jar	4 C	N
14.	P001-S-6001-1	Area 06		Soil	9/20/2013	1	8-oz. jar	4 C	N
צו_	P001-S-6002-1	Area 06	RCRA Characteristics	Soil	9/20/2013	 	8-oz. jar	4 C	N
16	P001-S-6003-1	Area 06	RCRA Characteristics	3011	5/20/2013	<u>'</u>	0-02. jai		
				<u> L</u>			<u> </u>		_!
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Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
210	RP	9/20/13	25	9.20-11	1634						
N	20 +	1835		َ رِيْ اِنْ	1835						
- <u>- </u>	The contract of the contract o	1	ICK 1		·						1
· · ·											

(another copy of chain was recieved e3498-GENCHEM with sample Collection times)

Temp 5°C

CHAIN OF CUSTODY #

Page for two controls and appropriately and the second second second

USEPA

DateShipped 9/20/2013 CarrierName: Courier Pick Up

AirbillNo N/A

CHAIN OF CUSTODY RECORD

RFP No. 263 / Weston Solutions Contact Name: Scott Snyder Contact Phone. 732-570-4993 No: 2-092013-122035-0017

Cooler # 1 of 1 Lab: ChemTech Lab Phone.

Lab	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	
	P001-DW-2001-1	Ares 02	RCRA Characteristics	Liquid Weste		10.05	1	8-oz jar	4 C	N
	P001-DW-2003-1		RCRA Characteristics	Liquid Waste		10 15	1	B-oz jar	4 C	N
***	P001-DW-2004-1	Area 02	RCRA Characteristics	Liquid Weste		10 25	1	8-oz jar	4 C	N
	P001-DW-2006-1	Ares 02	RCRA Characteristics	Liquid Waste		10 25	1	8-oz jar	4 C	N
	P001-DW-2006-2	Area 02	RCRA Characteristics	Liquid Waste		10 25	· 1	8-oz jar	4 C	N
	P001-DW-2007-1	Area 02	RCRA Characteristics	Liquid Waste	*	10 35	1	8-oz jar	4 C	N
	P001-DW-2011-1	Area 02	RCRA Characterisitcs	Liquid Waste		10:45	*	8-oz jar	4 C	N
	P001-DW-6035-1	Area 06	and the second of the second o	Liquid Waste		10 55	•	8-oz jar	4 C	N
;	P001-S-2001-1	Area 02	RCRA Characterisites	Soil	9/20/2013	11 40	•	8-oz jar	4 C	N
	P001-S-3001-1		RCRA Characteristics		9/20/2013	11 55		1 8-oz jar	4 C	N
	1 T. T. T. T. T. T. T. T. T. T. T. T. T.	Area 03	RCRA Characteristics	Soil	,	11 55		1 8-oz. jar	4 C	N
	P001-S-3001-2	Area 03	RCRA Characteristics	Soil	9/20/2013			1 8-oz jar	4 C	N
	P001-S-3002-1	Area 03	RCRA Characteristics	Soll	9/20/2013	12:30		. *	4 C	N
ı	P001-S-3003-1	Area 03	RCRA Characteristics	Soil	9/20/2013	12-50		1 8-oz. jar	• -	N
F	2001-S-6001-1	Area 06	RCRA Characteristics	Soil	9/20/2013	13:15		1 8-oz. jar	4 C	
F	'001-S-6002-1	Area 06	RCRA Characteristics	Soil	9/20/2013	13.30		1 8-oz. jar	4 C	N
þ	001-5-6003-1	Area 06	RCRA Characteristics	Soll	9/20/2013	13 40		1 8-oz jar	4 C	N

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Special Instructions:

Items/Reason Relinquished by Date Received by Date Time Items/Reason Relinquished By Date Received by Date Time

Smita Sumbaly

Chemist QA/QC Specialist

Weston Solutions, Inc.

1090 King Georges Post Road

Suite 201, Edison, NJ 08837

Phone: 732-585-4410

Fax: 732-225-7037

From: Chris Wolski [mailto:c.wolski@chemtech.net]

Sent: Friday, September 20, 2013 4:37 PM

To: Sumbaly, Smita

Subject: RE: ChemTech COC

Also can you confirm the RFP number, is it really 263 or is it supposed to be 265?

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922

Description: untitled2

From: Sumbaly, Smita [mailto:S.Sumbaly@WestonSolutions.com]

Sent: Friday, September 20, 2013 4:16 PM To: Chris Wolski (c.wolski@chemtech.net)

Subject: FW: ChemTech COC

See below COC, make sure 24 hours TAT required for all samples.

Smita Sumbaly

Chemist QA/QC Specialist

Weston Solutions, Inc.

1090 King Georges Post Road

Suite 201, Edison, NJ 08837

Phone: 732-585-4410

Fax: 732-225-7037

Begin forwarded message:

From: "Snyder, Scott" < S.Snyder@WestonSolutions.com>

Date: September 20, 2013, 14:18:49 EDT

To: "Lisichenko, Peter" < Peter Lisichenko@westonsolutions.com >

Subject: ChemTech COC

Sent from my iPhone

11

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E3796-GENCHEM



Laboratory Certification

State	License No.
New Jersey	20012
	14070
New York	11376
Connecticut	PH-0649
Florida	E87935
Louisiana	5035
Maryland	296
Massachusetts	M-NJ503
Pennsylvania	68-548
Rhode Island	LAO00259
Virginia	460220
Texas	T10470448-10-1

Other:

DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025	L2219
Soil Permit	P330-11-00012
CLP Inorganic Contract	EPW09038
CLP Organic Contract	EPW11030

QA Control Code: A2070148

E3796-GENCHEM

136 of 136

Sumbaly, Smita

From: Sent: Chris Wolski <c.wolski@chemtech.net> Monday, September 23, 2013 10:02 AM

To: Subject:

Sumbaly, Smita RE: ChemTech COC

Also please note that all the liquid waste samples we are going to treat as solid, and of these liquid waste samples, 1 and 3 will be treated using ignitibility and we will run flashpoint with the others.

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922



From: Sumbaly, Smita [mailto:S.Sumbaly@WestonSolutions.com]

Sent: Monday, September 23, 2013 9:06 AM

To: Chris Wolski

Subject: RE: ChemTech COC

PO I will send you this afternoon

Smita Sumbaly

Chemist QA/QC Specialist Weston Solutions, Inc. 1090 King Georges Post Road Suite 201, Edison, NJ 08837

Phone: 732-585-4410 Fax: 732-225-7037

From: Chris Wolski [mailto:c.wolski@chemtech.net]

Sent: Monday, September 23, 2013 9:08 AM

To: Sumbaly, Smita

Cc: Lisichenko, Peter; Snyder, Scott **Subject:** RE: ChemTech COC

Thanks, do you have a PO you want me to reference with these 265 projects?

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922



From: Sumbaly, Smita [mailto:S.Sumbaly@WestonSolutions.com]

Sent: Monday, September 23, 2013 7:51 AM

To: Chris Wolski

Cc: Lisichenko, Peter; Snyder, Scott **Subject:** RE: ChemTech COC

Chris - The correct RFP no is 265.

Smita Sumbaly

Chemist QA/QC Specialist Weston Solutions, Inc. 1090 King Georges Post Road Suite 201, Edison, NJ 08837

Phone: 732-585-4410 Fax: 732-225-7037

From: Chris Wolski [mailto:c.wolski@chemtech.net]

Sent: Friday, September 20, 2013 4:37 PM

To: Sumbaly, Smita

Subject: RE: ChemTech COC

Also can you confirm the RFP number, is it really 263 or is it supposed to be 265?

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922



From: Sumbaly, Smita [mailto:S.Sumbaly@WestonSolutions.com]

Sent: Friday, September 20, 2013 4:16 PM **To:** Chris Wolski (<u>c.wolski@chemtech.net</u>)

Subject: FW: ChemTech COC

See below COC, make sure 24 hours TAT required for all samples.

Smita Sumbaly

Chemist QA/QC Specialist Weston Solutions, Inc. 1090 King Georges Post Road Suite 201, Edison, NJ 08837

Phone: 732-585-4410 Fax: 732-225-7037

Begin forwarded message:

From: "Snyder, Scott" < S.Snyder@WestonSolutions.com>

Date: September 20, 2013, 14:18:49 EDT

To: "Lisichenko, Peter" < Peter. Lisichenko@westonsolutions.com>

Subject: ChemTech COC

Page 1 of 1

USEPA

DateShipped 9/20/2013

CarrierName: Courier Pick Up

AirbillNo N/A

CHAIN OF CUSTO

RFP No. 263 / Wes

Contact Name: Si

Contact Phone: 73

Lab#	Sample #	Location	Analyses	Matrix
	P001-DW-2001-1	Area 02	RCRA Characteristics	Liquid
	P001-DW-2003-1	COURS IN COLUMN TO A SECOND TO	RCRA Characteristics	Liquid
	P001-DW-2004-1	Area 02	RCRA Characteristics	Liquid
	P001-DW-2006-1	Area 02	RCRA Characteristics	Liquid
	P001-DW-2006-2	Area 02	RCRA Characteristics	Liquid
	P001-DW-2007-1	Area 02	RCRA Characteristics	Liquid
	P001-DW-2011-1	Area 02	RCRA Characterisitcs	Liquid
	P001-DW-6035-1	Area 06	RCRA Characterisitcs	Liquid
F	P001-S-2001-1	Area 02	RCRA Characteristics	Soil
P	2001-S-3001-1	Area 03	RCRA Characteristics	Soil
P	001-S-3001-2	Area 03	RCRA Characteristics	Soil
P	001-S-3002-1	Area 03	RCRA Characteristics	Soil
P	001-S-3003-1	Area 03	RCRA Characteristics	Soil
PO	001-S-6001-1	Area 06	RCRA Characteristics	Soil
PO	01-S-6002-1	Area 06	RCRA Characteristics	Soil
PO	01-S-6003-1	Area 06	RCRA Characteristics	Soil
			TOTO Characteristics	OUII

Special Instructions:

Items/Reason	Relinquished by	Date	Received by	Date	Time
			经 在 经 在 经 经 经 经 经 经 经 经 经 经 经 经 经 经 经 经		

Sent from my iPhone

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